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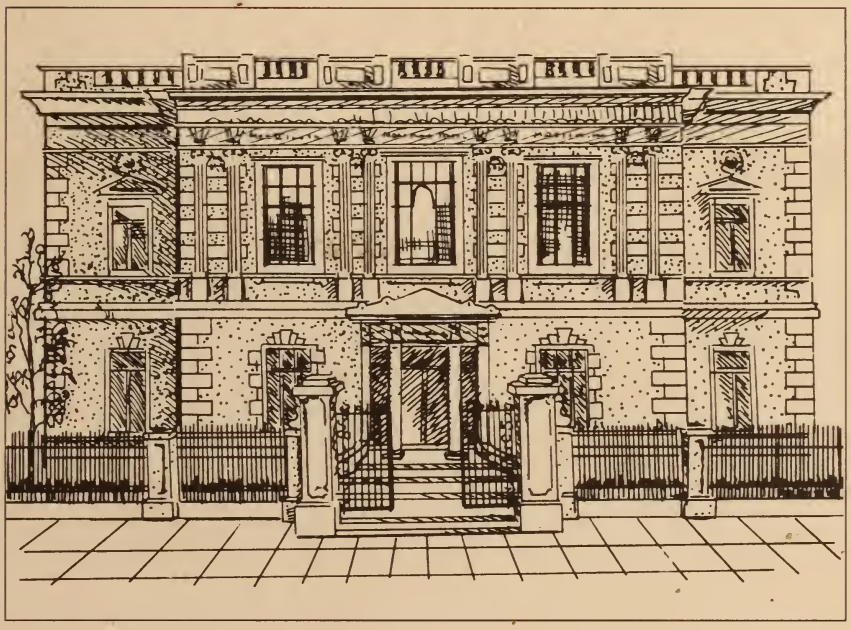

of the

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Series V Volume XXIV December 2002

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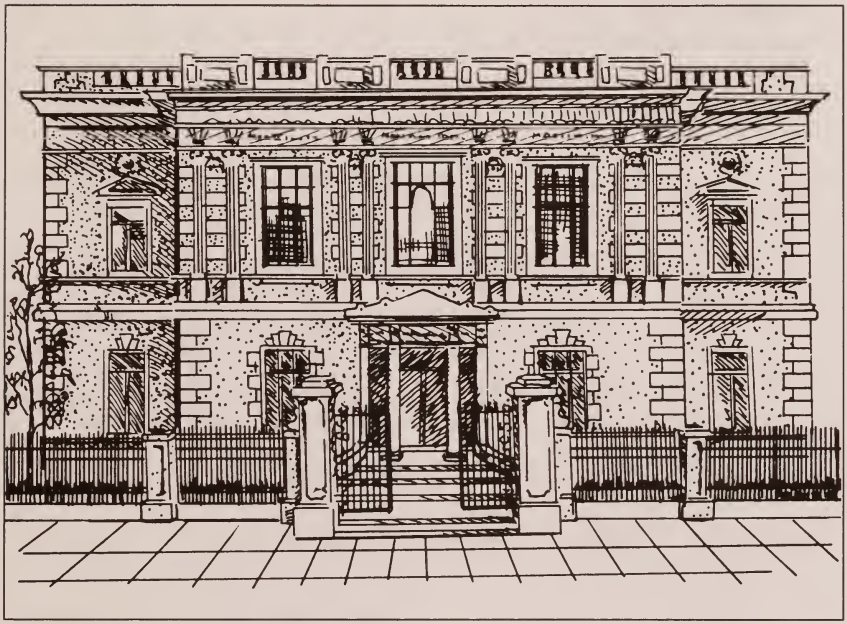
Transactions & Studies of the College of Physicians of Philadelphia (ISSN 0010–1087) is published annually by the College of Physicians of Philadelphia, 19 South 22nd Street, Philadelphia, PA 19103. Subscription correspondence should be sent to the journal at the same address. Subscriptions within the U.S.A. and Canada are $20.00, International $25.00. Back issues, $15.00 each. Cancellations, reports of missed issues, and refunds must be made in writing and on an official letterhead.

Scholarly submissions should be sent to Editor, Transactions & Studies, College of Physicians of Philadelphia, 19 South 22nd Street, Philadelphia, PA 19103, Attention: Gabriela Zoller, Assistant to the Director, Division of Historical and Museum Services.

Transactions & Studies of the College of Physicians of Philadelphia is indexed in *Biological Abstracts*, *Chemical Abstracts*, and *Index Medicus*.

TRANSACTIONS & STUDIES



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TRANSACTIONS & STUDIES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Series V Volume XXIV December 2002

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Editorial

T&S seems to be forever in transition. This year you have a new editor and a newly created editorial advisory board—the first time I know of that such a body has existed. I want to thank those who were willing to join the board and help this neophyte editor as he feels his way through the editorial process.

The journal itself remains organized much as it has been for the past decade. It appears annually, and the "Transactions" section consists of the annual reports of College governance, staff, and sections. I believe that the College is involved in some very interesting activities and I would urge readers—especially College Fellows—to look through these reports.

In addition to two "Studies" (i.e., substantive peer-reviewed historical articles based on primary research), this issue includes a less rigorously reviewed paper submitted by a College Fellow, an essay review of two recent general histories of medicine, two reviews of other important books in medical history, six brief research reports submitted by recipients of 2001–02 Wood Fellowships, the obituary of a leading College Fellow, and "Fugitive Leaves, Tipped In." This last section is an interesting compromise. Some readers may remember "Fugitive Leaves," a newsletter from the College Library's Historical Collection founded by W.B. McDaniel and later revived by Thomas Horrocks. At this point we do not have the financial resources to produce and distribute a handsome newsletter such as Tom Horrocks put out. We are bursting with news, though, so College Archivist and Associate Library Director Charles Greifenstein has taken on the responsibility of compiling "Fugitive Leaves" and "tipping" them into *Transactions and Studies*.

The College of Physicians exists as a bridge between society at large and the health care community. Its Fellows and staff endeavor to keep that bridge strong and durable, and maximize traffic back and forth across it. As the official organ of the College, oriented primarily toward medical history and the humanities in medicine, *T&S* has an important role to play in communication among scholars, health professionals, and the general public. I hope you will agree that this issue succeeds in achieving that objective.

EDWARD T. MORMAN

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Annual Report of the President

It is a pleasure for me to report that FY2002 has been a period of accomplishment and progress at the College of Physicians of Philadelphia. In a time of profound economic, technological and social change, the viability and relevance of membership organizations nationwide will be tested. A sound strategic plan provides the best foundation for an institution that wishes to simultaneously honor tradition while positioning itself for a place in a new century. Just as we urge our patients to have regular medical check-ups, an organization should undertake an in-depth strategic planning process every five years. At my request, the College's President-Elect, Thomas W. Langfitt, M.D., launched such a process here in September of 2000. Over the next eighteen months, Dr. Langfitt and other College leaders carefully studied every major facet of the College's operations and activities. They did so with careful attention to two questions: Was the College being true to its mission? How could the College build on the long-standing strengths of this unique institution? By the time this process had been completed in May of 2002, Dr. Langfitt's committee had agreed to twelve essential components in guiding the College to a sound and productive future:

A. The Fellowship

1. Increase participation by the current Fellows through a broader array of program offerings and through wider dissemination of articles, columns, and events that recognize the distinctive contributions of the College. Currently no more than 200 to 300 of the 1,500 Fellows are actively engaged. The objective of the new initiatives is to promote pride in Fellowship and greater involvement with the College.
2. Modify criteria for admission and the admissions process. The Committee endorsed recommendations proposed by the Admissions Committee. The principal objective of the modifications is to clarify the admissions standards. Specific elements include clear evidence of scholarship and leadership and persistence in those achievements, specific recognition of candidates who have

an interest and accomplishments in medical history and the humanities, letters of recommendation that fully address the candidate's qualifications, and perhaps interviews with candidates or sponsors or both parties. The Admissions Committee observed that probably two-thirds of the current Fellows meet the proposed standards.

3. Develop a 5-year plan for Fellowship recruitment—for example:
   a) A compelling message/brochure to promote the College and the advantages of Fellowship
   b) Create a profile of desired non-physician Fellow/Trustees followed by active recruitment of a select number who match the profile
   c) Orientation sessions for inductees; for example, a tour of the facilities with presentations on the College's treasures and its functions
   d) A detailed plan to involve new Fellows in the affairs of the College; for example, the Library, the Museum, and the medical Sections
4. Explore ways to increase annual giving by the Fellowship; for example, expand on the annual donor recognition program, including new benefits for higher levels of giving.

B. Recognition of the College and Its Reputation

1. Develop a long-range public relations effort to promote the College's treasures and its contributions to medicine, both to Greater Philadelphia and to society at large. It should define the target audiences, the kinds of stories to be told, the means of communication, and a budget.
2. Form a long-range plan for the Public Services Program. The Committee was struck by the College's history of active engagement with the Philadelphia public school system to create classroom materials in human health and biology, and with collaborative relationships with library systems in Philadelphia and across the Commonwealth. The plan will identify future opportunities to pursue these and other public service projects.
3. Implement the Regional Community Health Information System (RCHIS).
   a) Become the principal source of reliable information on medicine and the health of the public and on available health resources and services in the Greater Philadelphia region.
   b) Participate in the development of a regional Health Alert Network. The Network constitutes a national response to

the events of September 11 sponsored by the Centers for Disease Control and led by county health departments and regional offices of the federal Department of Health and Human Services.

c) Reach out to the physician community, commencing with the Fellowship, through the RCHIS to examine their interest in exploring new ways to communicate with their patients.

d) Assemble a coalition of community partners from both the not-for-profit and for-profit sectors to promote and evaluate the contributions of the RCHIS.

e) These newfound partnerships will help expand the reputation of the College and its contributions and thereby become a part of the development effort.

4. A detailed financial plan, with realistic revenue opportunities, must accompany expanded community engagement.

C. The Library

1. The Committee endorses the proposal to establish a Standing Committee of the Fellowship on the Library, Museum and Wood Institute.
2. Determine the needs for conservation of the collection and the rationale for adding to it, within specific collection areas and with advice from the Committee on the Library, Museum and Wood Institute.
3. Broaden the library constituency through the Section on Medical History, the Samuel Lewis Circle, and a regular membership program.
4. Incorporate a historical perspective into the College Program. Appoint the College Librarian/Director of the Wood Institute as an *ex officio* member of the Program Committee.
5. Increase grant support; for example, for an archival Center on Medical Ethics with support from the National Library of Medicine.
6. Add endowment to the $1.9 million provided by the Measey Foundation. Other opportunities include the existing Kligman Charitable Remainder Trust of $1.5 million.

D. The Museum

1. Examine optimal utilization of the current facility in view of the enormous increase in visitors over the past two years. What is its

maximum acceptable current capacity, daily and annually? Can the capacity be increased through logistical rearrangements?
2. Continue to pursue the rationale and the costs of expansion of the exhibit space.
3. Expand the scale and the offerings of the Museum shop.
4. Currently the Museum is among the top dozen tourist attractions in Philadelphia. Explore additional ways to market the Museum informed by the public's specific interests and the availability of space.
5. Test the elasticity of the fee schedule. Fees have not increased since 1996.
6. Examine additional opportunities to use the Museum for public education. If Museum attendance continues to rise and stretches its capacity, a trade-off may be required between meeting the College's obligations to the public schools, at discounted fees, and the opportunity for additional revenues.

E. The Facility

1. Continue to assess both deferred maintenance requirements and ways to enhance the aesthetic appeal of the building and the Benjamin Rush Medicinal Plant Garden.
2. Secure National Historic Landmark Status, targeted for 2003.
3. Prioritize capital requirements that now approximate $5 million; for example, how critical is the HVAC investment? Can it be staged?
4. Additional meeting/rental opportunities are limited. Can the facilities be used more efficiently and more imaginatively?

F. The Program

1. Articulate a clear set of objectives for the program. For example:
   a) To meet the interests of the Fellowship. How well do we understand them?
   b) To attract a broader audience of academics, spouses, friends, and community leaders
   c) To be relevant to the issues of the day in medicine and health
   d) To incorporate a historical perspective when appropriate
   e) To select presenters with the greatest recognition and public appeal
   f) Resolve the natural tension between scientific presentations that meet the needs of many Fellows but are largely incomprehensible to many other Fellows and to a lay audience

2. Explore the advantages of different and varied formats.
   a) The lecture
   b) A two-person point and counterpoint debate on the topic
   c) A panel
   d) An extended program; for example, a morning, afternoon, or evening with audience participation
3. Pursue a broad theme across two or three sessions; for example, the roles of physicians in contemporary society.
4. An annual conference on a major issue in health.
5. Expand sources of funding.
   a) Generate additional endowment. The number of annual programs could be expanded in proportion to available new endowment funds.
   b) Perhaps solicit sponsors from the corporate sector with careful attention to potential conflicts of interest and the image of the College. The Committee believes this is not an appropriate direction at this time.

G. The Sections

1. Develop a clear understanding of mutual interests between the College leadership and the Sections on Medical History, Arts Medicine, and Public Health.
2. Formalize (or reformulate) relationships based on that defined mutual interest.
3. Examine ways the Sections can contribute to the Strategic Plan and its individual elements.
4. Review relationships between the College and those medical specialties that are College Sections or utilize College facilities, then develop arrangements that are mutually satisfactory.

H. A Five-Year Implementation Plan

1. Develop a list of specific needs derived from the foregoing categories of College assets.
2. The leadership assembles those needs in priority order focused on two criteria: the assigned importance of each one and opportunities to fund it. If a priority is not fundable in the near term, then descend the list in a search for the nearest one that can be funded.
3. The plan must be opportunistic. As the visibility and the reputation of the College increase, unforeseen opportunities and changes in directions surely will arise.

I. A Five-Year Financial Plan

1. Project future revenues from each current revenue source based on its history and its future opportunities. Where feasible, establish an annual target for each revenue stream.
2. Strive to retain and renew current grant programs and continually search for new opportunities based on the proposition that public and private grants likely will represent the largest single source of new funding for the College in the years ahead. Currently, they represent 31% of revenues.
3. Identify other potential revenue streams; for example, establishment of a Friends of the College of Physicians and an annual fundraising gala.
4. Project the costs required to service the increased revenues, i.e., the human and physical resources that will be required to fulfill the obligations generated by each new revenue stream.
5. Examine the direct and indirect cost structure and allocations. Achieve more appropriate reimbursement of indirect costs through inventive negotiations with each grantor.
6. Establish a 5-year spending rule designed to at least conserve and hopefully yield real growth in the value of the endowment portfolio.
7. Examine the projected annual cash flow with early warning of a potential deficit.

J. A Five-Year Development Plan

1. The Committee believes the College must raise substantially more money than is currently available to it in order to achieve the plan and, thereby, reach the College's enormous potential.
2. The sources of support are, as always, individuals, corporations, foundations, and governments. Each category is pursued on a continual basis, in the form of a moving list of individual names, foundation guidelines, and government grant opportunities. A decision needs to be made on the engagement of corporations and its purposes.
3. The priorities in the Strategic Plan are matched to opportunities in each funding category.
4. The leadership of the College makes the commitment to identify and help cultivate specific donor candidates, and those candidates are introduced to the College through luncheons, dinners, tours, slide presentations, and more.
5. Donors are recognized through the same kinds of affairs.

K. Staffing the Plan

1. Analysis of current staff.
   a) Match between each individual and the job description
   b) Quality of performance including individual productivity
   c) Redundancy. Are all staff members fully occupied doing what they are assigned to do? What was the impact on the staff, in terms of assignments, accountability, and satisfaction, that accompanied the downsizing that took place over recent years?
2. Define unmet current needs.
3. Project staff requirements, and the timing for new hires that will accompany implementation of the Strategic Plan.
4. Management of staffing patterns given the likelihood that the proportion of soft revenues will rise and thereby add more uncertainty to the annual budget.

L. A Capital Campaign

1. Generate internally a set of criteria for evaluating the prospects for a capital campaign; for example, an objective assessment of the visibility and reputation of the College within the community and a list of major potential donors.
2. Define the capital needs of the College over the next decade; for example, facilities, endowment, and programs.
3. Select a target figure for the Campaign based on these assessments; for example, $20 million. If $10 million of the total were in endowment, it would generate $500 thousand per year, and add some 20% to current revenues.
4. Develop a threshold of achievements that will prompt engagement of an external firm to evaluate the prospects for a Campaign.

While the College's successful strategic planning process is the most significant accomplishment of this reporting period, there are other important developments that deserve comment. When the first phase of the College's historic building renovation program was completed in 2001, some essential work remained undone. The College's stately appearance was compromised by the state of the marble appointments on the first two floors of the building.

Appearing to be gray in some places and yellow in others, it was clear that a major marble restoration project was needed. I'm pleased that I was able to raise the lead gift that made the two-month

restoration project possible. The work was done by a distinguished local firm, Dan Lepore & Sons, which has done similar work for clients ranging from the Vatican to Philadelphia's City Hall. During this process, the walls and floors, as well as the grand staircase connecting them, were thoroughly cleaned and restored.

As the appearance of some College facilities improved significantly, the contrast with those areas of the building which had yet to receive attention became even sharper. Thomson Hall was a key example of this problem. Long favored by medical societies and other smaller groups wishing to meet at the College, Thomson appeared to be a kind of institutional stepchild compared to the College's elegant Mitchell Hall. With the College working diligently to compete for a growing share of the region's meeting and convention business, it was clear that upgrading and improving Thomson was a prudent long-term investment that would bring dividends for years to come. During the summer of 2002, a renovation project was launched which greatly enhanced Thomson's appearance.

During this renovation project, the floors were restored, the curtains cleaned, new speakers added, accent lighting was focused on the hall's Thomas Eakins portrait, new darkening liners were provided and the room was repainted. I want to thank the College's Women's Committee who helped to support this project.

As someone who was blessed with the opportunity to serve as President of the College and the Greater Philadelphia Healthcare Congress simultaneously, I've long believed that the College needs to be alert to, and take full advantage of, major opportunities to work in concert with other cultural and educational institutions in our area. It was clear that the upcoming three-year national celebration of the bicentennial of the Lewis & Clark Expedition constituted such an opportunity, with many area institutions planning to devote exhibits to different facets of the Lewis & Clark experience.

Drawing on the twin strengths of the Mütter Museum and the Historical Medical Library, the College committed itself to developing a new Gallery exhibit that will focus on the health and medical aspects of the expedition. The College is also committed to being the first cultural institution in Philadelphia to open a Lewis & Clark exhibit. Among its other goals, the exhibit will provide a window into the world of health and medicine as it existed in 1800. It also provides an opportunity to attract large numbers of new visitors to the College and Museum.

While it is true that College governance, staff and Fellows need to work hard if the institution is to achieve the goals described in the

strategic plan, it is also important for the College to celebrate its achievements periodically. With the College's Lewis & Clark exhibit scheduled to open in February of 2003, a College gala celebrating the exhibit is scheduled for March 2003. The gala will provide an important opportunity for Fellows and their spouses to mingle with friends and colleagues in a relaxed social environment that will include both an orchestra and a formal, multi-course dinner.

One of the most important developments during this period was the increasing strength of the Mütter Museum as a tourist destination and source of revenue for the College. The Museum attracted 30,583 visitors during FY01 and the figure jumped to 47,731 for FY02. The College's Chief Financial Officer, Mr. John Sawyer, has projected that visitation will reach 60,000 by the end of FY03.

The College continued the practice of presenting distinguished speakers who addressed a variety of compelling and controversial topics in public health, scientific medicine, medical ethics, arts medicine and medical history. The highlights of this lecture season included Donald L. Weaver, M.D., Director of the Bureau of Primary Care at the Health Resources & Services Administration. Dr. Weaver discussed the state of the nation's healthcare safety net and how it could be improved. That lecture was followed by a December presentation on biological terror by Richard P. Wenzel, M.D., M.Sc., the Chair of Internal Medicine at the Medical College of Virginia. Nobel Laureate Stanley B. Prusiner, M.D., discussed his discovery of the prion and how this new biological entity might impact therapeutics. Dr. Prusiner's February lecture was followed by a two-part program examining the prospects and problems associated with stem cell research. John H. Wolfe, Ph.D., V.M.D., explored the prospects, while Arthur Caplan, Ph.D., focused on what he considers misplaced ethical objections to stem cell research.

Allen R. Meyers

Annual Reports of the Thematic Sections

Section on Medical History

The Section on Medical History was established in 1904 and presented its first program in 1905. The list of Section programs presented in 2001–2002 was shortened by the events of September 11, 2001.

The first lecture of the 2001–2002 cycle was the Samuel X Radbill Lecture on October 24, 2001, named for and given annually in honor of the dedicated Philadelphia pediatrician and noted historian of medicine. The Samuel X Radbill Historical Collection is located within the Historical Library of the College of Physicians. Eleanor Gordon, M.D., College Fellow and former Chair of the Section on Medical History, spoke on "Illnesses, Injuries, and Disabilities among Medieval Children as Described in the Miracles of Ten English Saints and Martyrs." Dr. Gordon presented an intriguing range of childhood injuries described in Medieval Latin manuscripts and other historical sources, many of which (falls from trees, near-drownings through ice, and even a school stabbing) were strikingly similar to those encountered today. In many of the cases, Dr. Gordon was able to supply a diagnosis and offer a clinical explanation for recovery. A clinical pearl of note occurs in an entry dated 1156 A.D. in "The Life and Miracle of St. William of Norwich" by Thomas of Morton; the physical description of the child presented is strongly suggestive of arthrogryposis multiplex congenita and may represent the earliest documentation of that syndrome.

On December 12, 2001, the Section was pleased to invite the new College Librarian and Director of the Wood Institute, Edward Morman, MSLS, Ph.D., to discuss "The Future of Medical History at the College of Physicians." Dr. Morman spoke about the several aspects and duties of his double appointment, as well as how these functions were integrated with plans for increasing future cooperation between the College of Physicians of Philadelphia and other Philadelphia scholarly institutions. Members of the Section are

among the more active users of the College's Historical Library, and although we miss our former excellent librarians, we are delighted that the College found another dedicated librarian also qualified in and enthusiastic about the history of medicine.

The annual Kate Hurd-Mead lecture on March 6, 2002, featured Ellen More, Ph.D., whose topic was "Seeking Balance in an Unbalanced World: Women Physicians and American Medicine." Professor More, appropriately showing a turn of the (twentieth) century photograph of a woman physician and her husband balancing on the bicycles they rode to house calls, described the various other balances required then and now between practice, family and community lives, and described the first women's medical societies and their meetings.

The last lecture, postponed from September 12, 2001, took place on April 24, 2002. Eric Zillmer, Psy.D., Director of Athletics and the Carl R. Pacifico Professor of Psychology at Drexel University, discussed "Searching for the Evil Personality." Professor Zillmer described the intellectual abilities and persuasive personalities of some of the most notorious Nazi war criminals, as well as how the combination of these features increased the effectiveness of the several individuals.

At its final meeting, the Section elected the current Chair to another term and expressed its deep appreciation to Jody and Mark Sageman, M.D., Ph.D., whose other obligations do not permit him to continue as Clerk of the Section. Steven J. Peitzman, M.D., former Chair, agreed to serve as Acting Clerk until a new Clerk is elected.

A. Deborah Goldstein, M.D., Ph.D.
Chairman, Section on Medical History

Section on Public Health & Preventive Medicine

The Section on Public Health and Preventive Medicine of the College of Physicians of Philadelphia has a very active membership for 2001–2002. The Executive Committee of the Section includes Ann L. O'Sullivan, chair; Robin Wilcox, clerk; Richard J. Cohen, past-chair; Patricia Gerrity, Michael P. Rosenthal, Patricia West, James D. Plumb, Robert G. Sharrar, Robert Otto Valdez, Walter Tsou, and Robert W. Gage. Additional participants on the Executive Committee include Alicia J. Hausman, Shiriki K. Kumanyika, Marla J. Gold, Lewis D. Polk, John P. Maher, Maureen Hennessey Herman, Rosemary Nolan-Hamm, Joseph M. DiMino, and John F. Domzalski. Arthur K. Asbury and Thomas W. Langfitt also attend the meetings.

The Section is very grateful for the support from Suzanne Eagleson, Andrea Kenyon and Sofie Sereda for the entire behind-the-scenes work of the Section.

The Executive Committee has spent a great deal of time and energy addressing issues of membership, advocacy positions and planning enriching programs for our members.

To date the Section has co-sponsored with the College two meetings:

September 5, 2002—"Perspectives on the Public Health and Mental Health Effects of Terrorism: A Commemorative for September 11, 2001."
Participants: Marcella C. Layton, M.D., Ezra S. Sesser, M.D., Dr.P.H. and John F. Domzalski, J.D., MPH (Moderator)

December 4, 2002—"From Silent Spring to Scientific Revolution: Environmental Hazards to Health and Reproduction" —John Paterson Myers, Ph.D.

and sponsored two independent presentations including:

February 11, 2002—"Controversies in Infectious Disease"—Presented by 2nd year students—Jefferson Medical College of Thomas Jefferson University.

March 13, 2002—"Presentation of Antimicrobial Resistance in Hospitalized Adults"—Denise M. Cardo, M.D.

On April 3, 2002, in celebration of Public Health Week, the Section held a Public Health Recognition Night honoring Lewis D. Polk, M.D., for his many years of support in the public health arena.

And again this year on May 6, 2002, the Public Health Poster Session, co-sponsored with the Pennsylvania Public Health Association and the New Jersey Public Health Association presented over 35 posters on public health phenomena. The three posters winners include:

Sharon Starr, MSN, RN (Public Health Nurse, LaSalle University Neighborhood Nursing Center)—"Awareness of Prostate Cancer in African American Men and Its Influence on Screening Health Behaviors"

Nsima Usen (candidate at Temple University)—"Podiatry Physicians Survey: Interest and Potential Impact in Philadelphia Healthy Start Communities"

Alice Ulhoa-Cintra (candidate, MCP Hahnemann School of Public Health)—"Risk Factors for Acquisition of Giardiasis: a Case-control Study In Philadelphia"

The entire Executive Committee participated in an email-telephone membership renewal drive which increased our membership by twenty percent. Each year we sent two renewal notices to all members who have not renewed for the past three years and this year we included our new brochure in all renewal reminders. We also included a statement that "if you do not wish to renew please let us know why by also returning this form." To date we have only heard that members forgot to renew and were happy to have the additional, personal contact by our Executive Committee member.

Thanks to a sub-committee of R. Sharrar, R. Wilcox, R. Cohen and W. Tsou, the Section has a new "Position Statement Procedure" that will facilitate the section's documenting of their views on a variety of issues.

For as long as I have been a member of the College, it has been a wonderfully neutral place to hear a variety of different opinions on public health topics of the times. I look forward to continuing to experience this unique gift from the brilliant, but often disparate, views of many of our Section members. The passion that each of us feels regarding a particular issue is what has kept the College and the Section at the forefront of protecting the health of the public.

Ann O'Sullivan

Section on Arts-Medicine

Perry Ottenberg, M.D., continued to chair the Section, assisted by Mary Anne Bartley, Vice Chair; Paul Nolan, MCAT, MT-BT, Treasurer; and members of the Executive Committee Kenneth Cundy, Ph.D., Rhonda L. Soricelli, M.D., and Burton Wasserman, Ph.D. Gretchen Worden, Director of the Mütter Museum and College Gallery, was the College of Physicians staff liaison.

The Section sponsored two programs in FY 2002. On October 9, 2001, Elizabeth Meyer presented a slide lecture, "Peripeteia." She is an MFA graduate of the Pennsylvania Academy of the Fine Arts, a teacher and frequent guest speaker, and an artist who has had numerous solo and group exhibitions in Philadelphia and across the country. The images were a chronology of her response to a personal traumatic event, illustrating her art before the trauma and how it changed afterward.

On March 5, 2002, Sandra L. Bertman, Ph.D., gave an illustrated lecture on "Last Rights/Last Rites: Finding Meaning at the End of Life." She is Professor of Humanities in Medicine at the University of Massachusetts, Worcester, and a pioneer in death education. In her presentation she used images of art to illuminate the psychological, spiritual, and existential concerns of patients, family members, and care-giving communities.

Perry Ottenberg

Annual Report of Development and External Affairs

Development

As did most charities, the College experienced a decline in FY2002 giving in the aftermath of the 9/11 tragedy and subsequent market activity. Total contributions for FY2002 were $1,295,684 as compared to $1,434,487 for FY2001, a variance of –$138,803. Unrestricted giving for FY2002 was $103,393 as compared to $156,691 for FY2001, a variance of –$52,691. A factor in the decline of unrestricted gifts was the College's building improvement appeal, conducted as part of Annual Giving. There were 427 gifts (over 341 in FY01) to the Annual Giving appeal (including contributions for the building fund) for a total of $170,254. The average gift was $400. Two building fund gifts totaling $15,000 skewed this average. The College received one bequest totaling $63,367. Bequests are placed into the College Fund (Endowment). Foundation and government grants accounted for the remaining gifts.

The largest grant awarded the College in FY2002 was $639,640 (over 3 years) from the William Penn Foundation to support cataloging, conservation and preservation of the Historical Library collections. The College received the first installment ($217,172) of this grant award. The College received $200,000 of a Cooperative Agreement Award (year two of three) from the Centers for Disease Control and Prevention (CDC) for the Community Health Information Center to help it evolve into the Regional Community Health Information System.

The Mütter Museum received a planning grant ($50,500) from the Philadelphia History Exhibitions Initiative (PHEI) for the College's exhibit, *Only One Man Died: Medical Adventures on the Lewis & Clark Trail.* PHEI also awarded the Museum a consultancy grant to assess the Museum's interpretive and exhibit presentation needs. It also received funding from the Pennsylvania Historical and Museum Commission (PHMC) for general operating support and a grant to catalog its OB-GYN collections.

The College is grateful for the ongoing support it receives from the Groff Family Memorial Trust. At this year's meeting, in addition to awarding $60,500, the Groff Board has decided to "adopt" the Mütter Museum for funding over the next several years.

Public Relations

Public relations activities during this reporting period included a mix of special projects, as well as ongoing promotion of College programs and services. Highlights of the past fiscal year appear below.

A. New York Times *Article on Historic Yellow Fever Letters Found at the College*

During the summer of 2001, College Facilities Foreman, Leroy R. Green, found a cache of historic letters documenting the yellow fever epidemic that devastated Philadelphia (then serving as the nation's capital) in 1793. Among the highlights of 85 documents found by Mr. Green are letters by Alexander Hamilton and Dr. Benjamin Rush, a founder of the College. The dates of these recently discovered documents range from 1787 to 1889. Other treasures in this "find" include everything from medical case studies to weather data. One of the medical case studies focuses on a case of anthrax from June of 1790. Since the report ends inconclusively, it is unclear whether the patient, Nathaniel Browner, recovered from this illness. *New York Times* Science Reporter Gina Kolata visited the College at the beginning of November to gather information for an article. Her story, which appeared on the front page of Science Times on November 6, 2001, was entitled "When Bioterror First Struck the U.S. Capital." Ms. Kolata quotes Charles Greifenstein, the College's Curator of Archives and Manuscripts, describing his reaction to reading the documents, ". . . you can really feel like you're there, like you are part of the community."

B. Article on the College's Historic Building Renovation Project in The Philadelphia Inquirer

Philadelphia Inquirer Architecture Critic Inga Saffron visited the College to document the work the College completed during the first phase of its historic building renovation project. During an extensive tour on November 12, 2001, Ms. Saffron was accompanied by

Mr. George Skarmais, Director of Historic Preservation at the Hillier Group, an architectural firm based in Philadelphia. Also present for the tour was Dr. Robert Campbell, Chair of the College Committee on Administration. Ms. Saffron's article about the College was published on November 16, 2001. Its headline read "College of Physicians is Back on Road to Health."

C. Governor Schweiker Visits the College

Pennsylvania Governor Mark Schweiker signed legislation changing the state's medical-malpractice system during a visit to the College on March 20, 2002. Joining the Governor for this historic event were State Insurance Commissioner M. Diane Koken, Pennsylvania Physician General Robert S. Muscalus and the Pennsylvania Secretary of Health Robert Zimmerman. Following the bill signing in Mitchell Hall, the Governor joined College President Allen R. Myers, M.D., President-Elect Thomas W. Langfitt, M.D., and other leaders of the institution for an extensive tour of the College. Governor Schweiker's staff selected the College as the site for the bill signing because of its reputation for neutrality and objectivity in assessing public policy issues.

D. Coordination with the Office of Congressman Chaka Fattah

As a non-profit educational and cultural institution, the College makes a continuing effort to educate elected officials at all levels of government about its public and community service activities. As part of this effort, the Congressman's District Director, Ms. Bonnie Bowser, toured the College and met with several staff members on June 17, 2002. On June 26, 2002, Marc S. Micozzi, M.D., and the College's Director of External Affairs, Edward Plocha, met with Congressman Fattah in his Washington office. During this meeting, the Congressman was briefed on the College's public service commitments and appropriations agenda during the current legislative cycle. Congressman Fattah has visited the College in the past and hopes to visit again in the future.

E. A Special Issue of Transactions & Studies

Volume XXIII of the College's annual publication, *Transactions & Studies,* proved to be a special challenge for two reasons. After several years devoted to educating both the medical profession and the public about the medical, constitutional and historical issues relating to

presidential disability and the 25th Amendment, it was determined that documenting the full range of College activities in this area for Fellows and scholars alike was important. It was decided that a special issue of *T&S* would be the best means of achieving this goal. Since no catalogue of the College's 1996 Gallery exhibit "When the President is the Patient" had been produced, including such a catalogue in this issue was an important goal. These decisions were made at a time when the publication was between editors and the College's Director of Public Relations was asked to select the presidential health material to be included in this issue, while compiling all the other material necessary to publish a volume of *T&S*. This volume should be of interest to students of the American presidency for years to come.

EDWARD PLOCHA AND RICHARD LEVINSON

Annual Report of the Katherine A. Shaw Division of Public Services

The Katherine A. Shaw Division of Public Services includes the C. Everett Koop Community Health Information Center, College Gallery, Mütter Museum, Reception Desk and Gift Store, and Information Systems.

The C. Everett Koop Community Health Information Center (CHIC)

The CHIC staff continued to strengthen the effectiveness of the C. Everett Koop Community Health Information Center (CHIC) by implementing recommendations from the *Final Report: Evaluation of the C. Everett Koop Community Health Information Center,* a CDC evaluation conducted by Macro International Inc. (1999). The CHIC, created in 1995, responds to the health information needs of the public by providing free access to accurate, consumer-oriented resources covering a broad spectrum of current information on medicine, health maintenance, disease prevention and health care services. Trained medical reference librarians assist health information seekers in identifying quality health information designed to assist individuals in making decisions to enhance personal and family health. CHIC resources are available to help guide individuals through the array of health resources available locally, regionally, and nationally. During FY02, the CHIC had over 2,500 visitors and 130 registered borrowers. The CHIC is staffed 6 days per week, Monday through Saturday.

After two years of operation, College Governance and CHIC staff, recognizing the need to expand the CHIC's community impact, focused on increasing Internet-based delivery of health information via the CHIC website. The goal was to expand the focus of the CDC grant project to accomplish the following:

- Establish CHIC program visibility among librarians and other key audiences by ensuring that 25% would mention the CHIC program as a consumer referral source.

- Establish CHIC program as a web-based resource by building links to 200+ key sites.
- Increase CHIC program acceptance among College Fellows by ensuring that 75% will indicate the CHIC website as a resource that adds value to the College mission.
- Increase CHIC program patronage by 25% over baseline (FY2000) patronage.
- Encourage adoption of CHIC website model by 25% of relevant institutions.

Underlying these objectives are two "streams" of tasks that will:

- Direct significant staff resources to expand and improve the CHIC program website, including addition of links to regional health services, providers and resources, and implementation of online reference support.
- Document the CHIC program and website and disseminate it as a national model.

In August 2001, College leadership and staff met with Lee Rainie, Susannah Fox, and Dr. Tom Ferguson from the Pew Internet & American Life Project, in Washington D.C., to learn more about their initiative to explore the impact of the Internet on children, families, communities, workplace, schools, health care and civic/political life. Their reports have provided guidance and support as the College began plans for CHIC website expansion.

In October 2001, CHIC staff contracted with Virtual Farm Creative to enhance the CHIC program website. This second-generation CHIC website [currently online at www.collphyphil.org/chic.html] was launched in May 2002 and includes additional content, enhanced service features (including online forms for submission of workshop registration and reference questions), a sleek graphic layout, a virtual tour, a text-only version for persons with visual impairments, and an expanded list of 400 credible, accessible health information websites. CHIC staff have begun to work with appropriate area organizations (e.g., libraries, health organizations, health care providers) to create mutual hypertext links from the CHIC website to partner organizations.

In December 2001, CHIC program staff contracted with Virtual Farm Creative (VFC) to design a new logo for the CHIC. In February 2002, VFC delivered a simple yet interesting design concept depicting a person seated at a computer inside an apple. This logo will appear

on the new CHIC website and all future CHIC publicity materials, including posters, bookmark brochures, and giveaway items.

An expanded, third–generation of the CHIC website is in the planning stages and will be developed and launched in the next fiscal year. This third-generation CHIC program website will consist of four key elements: a virtual "health newspaper," including breaking health news stories, recent medical research findings and mini-articles highlighting timely health topics of concern to the Delaware Valley; credible national and global health information websites; a directory of links to regional health information resources and services; and a real-time virtual reference service that will permit remote patrons to "chat" online with a CHIC staffperson. The third-generation CHIC program website will benefit all segments of the population but will provide specific resources for targeted segments of the population, including older adults, women, minorities, children and youth. MRB Communications, a Philadelphia-based web design firm with experience developing websites for non-profits and medical organizations, will develop the pages, the underlying database, graphics, a search engine and page update templates for the third-generation CHIC program website.

Free Library of Philadelphia Collaboration

The College continued to work with the Free Library of Philadelphia (FLP) to expand access to consumer health information in the Philadelphia area. Although implementation of collaborative activities was to be slower than anticipated due to public library system staff capacity limitations, a number of activities advanced the partnership.

In June and July 2001, FLP and CHIC staff jointly presented three workshops on *Finding and Evaluating Internet Health Information to FLP Patrons*. The training occurred in the FLP PC training lab. Each workshop averaged about five participants, and the response was uniformly enthusiastic. The third of these three workshops, held on July 18, presented *Internet Health Information Resources for Seniors*. Senior citizens comprised the majority age group in each of the three workshops. In November 2001, CHIC program staff conducted an *Internet Health Information Resources for Seniors* workshop at the CHIC. FLP provided the publicity for this workshop, and all four seats were filled.

In September 2001, the FLP and CHIC program launched the *Be Health Smart!* promotional campaign. The cornerstones of the *Be*

Health Smart! campaign are the professionally designed and produced hardcopy materials: a tri-fold brochure, a bookmark, and a poster each displaying the attractive and informative logo custom-developed for the campaign. Supplies of the brochure, bookmark and poster were distributed to all Free Library locations, including the branches, the Central Library, and the Regional Libraries, for distribution to patrons. The tri-fold brochures include tips for locating and evaluating health information on the Internet, as well as a complete description of the health-related resources, including electronic databases, available at both the CHIC and FLP.

In October 2001, the CHIC program and FLP presented a poster (5′ × 5′) detailing the *Be Health Smart!* campaign at the Pennsylvania Library Association (PaLA) Annual Meeting in Philadelphia. Staff from CHIC and FLP distributed *Be Health Smart!* brochures and bookmarks and answered questions from exhibition attendees, consisting primarily of public and academic librarians and library product and service vendors.

On October 3–4, 2001, CHIC program and FLP staff shared an information booth at the Philadelphia Aging Expo held in the Philadelphia Convention Center. The Aging Expo, directed at Philadelphia area senior citizens, brought together numerous health, financial and social service organizations, product vendors, entertainers and information providers. A portable tabletop display designed to provide information about the CHIC program and the partnership with the Free Library of Philadelphia was created and used at the Expo. This tabletop display will be used at future health fairs and other exhibiting opportunities. The CHIC program staff took the lead in producing three promotional items depicting the *Be Health Smart!* logo to give away at the Aging Expo: jar lid openers, canvas tote bags, and vinyl pillboxes. CHIC program and FLP staff distributed 2,000 canvas bags, 500 vinyl pillboxes, and 1,000 jar lid openers. CHIC program and FLP staff answered questions about their services, and distributed promotional materials (e.g., the CHIC bookmark brochures) from their respective institutions.

In February 2002, CHIC program staff mailed a survey to a sample of 48 FLP librarians. The survey intended to solicit information from the FLP librarians regarding the number and type of health information reference questions they receive, the resources (both print and electronic) they most commonly use to answer them, challenges they encounter in providing consumer health information and their experience in answering health information questions. Twenty-nine

of the 48 surveys were returned, and the resultant data will be entered and maintained in a Microsoft Access database to be created by ORC Macro.

FLP management has expressed keen enthusiasm for an increase in online delivery of consumer health information service. In addition to continued FLP staff training, CHIC staff are in the process of collaborating with FLP to conduct a pilot study to field-test the next generation of the CHIC website. The Philadelphia Health Management Corporation (PHMC) will oversee the implementation of the pilot study. Together with the CHIC, a Free Library branch (to be determined) will serve as a public access point to the new CHIC program website. Pilot study participants will be surveyed to assess their comfort and satisfaction with the CHIC website enhancements. Participants will also be invited to participate in focus groups to provide more in-depth user feedback, and gauge the impact of in-person assistance from FLP librarians on the outcome of patrons' interaction with the new CHIC program website.

One objective of the third-generation CHIC website project will be to establish intermediary locations, called "mini–centers," modeled on the CHIC. These mini-centers will be developed to serve the health information needs of the public who do not have access to a computer. They will be developed in collaboration with public library branches because libraries are the largest and most pervasive repositories and disseminators of public information. The Free Library of Philadelphia includes 54 neighborhood branches dispersed throughout the city.

Delaware County Library System

In September 2001, CHIC program staff met with representatives from the Delaware County Library System to discuss collaborative efforts to improve consumer health information dissemination. On December 5, 2001, CHIC staff met again with DCLS administrative staff to discuss the feasibility of consumer health information workshops by CHIC for DCLS librarians, as well as opportunities for consumer health information resource sharing and promotion. At this meeting, College staff arranged a date for a group of DCLS reference librarians to visit the CHIC for a tour, a MedlinePlus tutorial, and a meeting to discuss training and resource sharing needs between CHIC and DCLS. That half-day meeting, attended by ten DCLS reference librarians, occurred on January 31, 2002. The MedlinePlus tutorial

was well received by the DCLS staff, and plans were finalized for CHIC staff to present two Internet Health Information Workshops at a DCLS facility in April 2002.

Physician Involvement

The CHIC program is continuously striving to assist and support physicians' offices in the dissemination of quality consumer health information. In December 2001, CHIC staff contacted 30 physician Fellows to determine their interest in participating in a focus group to discuss ways in which the CHIC can assist in their patient education efforts. A total of only three responded that they or their staff person would be available. An unsuccessful attempt was made to contact physicians by telephone. A second mailing was sent from the President of the College of Physicians of Philadelphia in February 2001 to forty additional College Fellows. The Fellows targeted had indicated, in the 2000/2001 CHIC Fellows survey, that they wanted more information about the CHIC or expressed an interest in working with the CHIC to better serve their patients. Six physicians indicated a willingness to participate in a focus group. Scheduling conflicts contributed to lower than anticipated response to the focus group solicitation. CHIC program staff re-examined its approach to focus group recruitment, and determined that recruitment and coordination of substantive physician focus groups was outside the expertise of CHIC program staff. Therefore, the College determined that ORC Macro would be best suited to both coordinate focus group recruitment and facilitate the groups with assistance from CHIC program staff.

Community Engagement

College Governance and CHIC program staff have met with a number of area organizations to explore possible collaboration in the provision of consumer health information, including the American College of Physicians and Surgeons, the United Way of Southeastern Pennsylvania, and the Philadelphia Corporation for Health Management (PHMC). During the spring of 2002, College leaders and staff had a series of meetings with key individuals involved with the Health Alert Network (HAN) to learn more about the possible role for the College in this nationwide program to establish communications, information and organizational infrastructure for defense against health threats. Dalton Pasman, Regional Health Administrator for

Region III, Department of Health and Human Services, Dr. Walter Tsou, and John Domzalski, Commissioner of the Philadelphia Health Department, were valuable resources who assisted the College in learning more about Health Alert.

Continuing Education

CHIC program staff attended the American Medical Informatics Association's 2001 Annual Symposium and post-conference held in Washington, DC, November 3–8, 2001. The focus of the conference was on critical issues in consumer health informatics. The Internet health research team for the Pew Internet & American Life Project reported its latest survey findings. Issues discussed included the digital divide, quality health information on the Internet, patient-provider email, online caregivers and the role of online support groups.

In January 2002, CHIC staff attended an afternoon workshop on real-time virtual reference service. Representatives from three organizations currently providing web-based interactive reference discussed the software solutions they chose and discussed their experience in delivering virtual reference to patrons. CHIC staff anticipates adding real-time virtual reference services to the next-generation CHIC program website.

In May 2002, CHIC staff attended the annual Medical Library Association conference in Dallas, TX. This seven-day conference consisted of meetings, workshops and continuing education courses pertaining to current issues in medical librarianship, including consumer health information, reference, and technology.

Andrea L. Kenyon

Annual Report of the Mütter Museum and College Gallery

Museum and Gallery Visitors and Income

The total number of visitors to the Museum and Gallery in FY2002 was 47,731, an increase of 17,216 over FY2001. This was the first full year in which the hours of 10–5 seven days a week (instituted in May 2001) were in effect, and there was no change in admission charges. The new hours may be partly responsible for the dramatic leap, compared to the increase of 7,790 between FY2001 and FY2000. Another factor may be the Discovery channel hour-long program on the Museum that first aired on November 25, 2001, and has been repeated numerous times since. It is one of the programs most frequently mentioned by visitors.

Total admissions income for FY2002 was $299,118, an increase of $113,426 over FY2001.

Reception Desk Staffing

Laura Johnson, hired in July 2001, continued as weekday receptionist and group tour coordinator, and Camille Lewis continued as weekend receptionist, assisted by Lance Wahlert during especially busy periods. College staff members Sofie Sereda, Paul Reilly, Gabriela Zoller and Margaret Lyman provided desk coverage for lunch periods during the week.

College Gallery

"Emerging Infectious Diseases: Ancient Scourge/Modern Menace" remained in the College Gallery, but planning began for the next exhibit, "Only One Man Died: Medical Adventures on the Lewis and Clark Trail," with an anticipated opening date of February 2003.

Project coordinator Andrea Kenyon, Director of Public Services, led a team of College staff and representatives from project partner The University of the Sciences in Philadelphia. The exhibit will describe the medical aspects of the Expedition, and will emphasize the importance of Philadelphia in providing Meriwether Lewis with the medical, astronomical, and botanical information required to fulfill the expedition's scientific information-gathering goals, as well as the initial medical and equipment supplies needed. College Fellow Dr. Dorothy Lansing gave seed money for the project, and an additional $55,000 came from a planning grant from the Philadelphia History Exhibitions Initiative. These funds were for a research assistant, scriptwriter, exhibit designer, and marketing consultant.

Civil War History Initiative

Motivated by the possible departure of the Civil War Library and Museum collections from Philadelphia, and by the creation of the Civil War Museum in Harrisburg, the Lincoln Foundation of the Union League of Philadelphia invited members of Philadelphia area cultural and historical organizations to meet in order to discuss ways in which those organizations could raise public awareness of Philadelphia's rich Civil War experience and legacy. The purpose was not only to claim a share of Civil War heritage tourism dollars, but also to help those organizations identify their own Civil War period holdings and make them better known to their own institutions as well as to the public. Museum Director Gretchen Worden was invited to the initial meeting, and suggested that Charles Greifenstein, Curator of Archives and Manuscripts, also represent the College at the meetings, since he is knowledgeable about Civil War history in general, had produced a resource guide to the College Library's Civil War collections, and had presented a paper on Philadelphia Civil War hospitals at the meeting of the Society of Civil War Surgeons organized by the Museum several years ago. The meetings at the Union League resulted in the formal creation of the Civil War History Consortium, with the College of Physicians among its founding members. The Museum Director is currently co-chair of the Exhibit Committee, which is planning a comprehensive inventory of Philadelphia area Civil War-related collections in preparation for a major collaborative exhibit in 2007.

Thomas Dent Mütter Lecture

Nobel Laureate in Medicine Dr. Stanley B. Prusiner gave the annual Mütter Lecture on February 14, 2002. His subject was "Prion Biology and New Approaches to Therapeutics." Dr. Prusiner is Director of the Institute for Neurodegenerative Diseases and Professor of Neurology and Biochemistry at the University of California in San Francisco.

Mütter Museum Calendar 2002 and the Mütter Museum Book

The 2002 calendar was again sold in bookstores in the United States and Great Britain, and featured the work of most of the same photographers who contributed to the 2001 calendar. Laura Lindgren, calendar coordinator and designer, suggested that instead of producing a 2003 calendar, we should publish a book on the Mütter Museum, a project which Lindgren and the Museum Director first discussed in 1989. The book would illustrate the Museum's holdings with selected photographs from the past seven calendars, new work by photographers who had visited the Museum in the past year, and a large number of photographs from the Museum's archival collections. Final text and design were sent to the printer in June.

Objects Received

The following items were received for accession:

- An X-ray viewing table custom made for Dr. Eugene Pendergrass, from his son, Dr. Henry P. Pendergrass.
- A dolorimeter, used by Drs. Daniel J. McCarty Jr. and Robert A. Gatter to quantify pain in arthritis patients at Hahnemann Medical College and Hospital, presented by Dr. Robert A. Gatter.
- A Bausch and Lomb microscope, lab scale, Beckman pH indicator, and Travenol IV equipment, from the Marvin Samson Center for the History of Pharmacy, University of the Sciences in Philadelphia.

- A salmon fishing rod and case formerly belonging to Dr. S. Weir Mitchell, from Dr. James B. Snow, Jr.
- Items that Dr. C. Everett Koop received during his tenure as Surgeon General of the United States, including awards, medals, miscellaneous gifts, uniforms, and framed cartoons and magazine covers, from Dr. Koop.

Museum Loans

The text and panels from the "When the President Is the Patient" exhibit, originally displayed at the Republican National Convention, were lent to the Rose Melnick Medical Museum of Youngstown State University in Youngstown, Ohio.

Acupuncture instruments and mannequins, silver and wax votive offerings, and assorted quack medical devices were lent to the Marvin Samson Center for the History of Pharmacy at the University of the Sciences in Philadelphia for an exhibit on complementary and alternative medicine.

Twenty photographs from the Museum's archival collections were lent to the International Center of Photography in New York for an exhibit "Photography and the Prelude: Foreign Body to Genetic Modification," January 11 through March 17, 2002. Over half of the photographs in the exhibit came from the Museum, and one of them was chosen as the cover image for the exhibit catalogue.

Museum Projects

Rob Crites, Academic Director for Photography and Video Production at the Art Institute of Philadelphia, was engaged to produce quick-time video tours of the Museum, Gallery, and Facilities Rental spaces for the College Website. Funding for the project came from the FIE grant and the Special Events marketing budget.

In the spring and early summer of 2002, high school seniors Sarah Wahrhaftig and Andrew Mooers served unpaid internships. Sarah assisted Collections Manager Margaret Lyman in unpacking and inventorying the Koop Collection. Andrew reorganized, repaired, and transferred the Chevalier Jackson collection of foreign bodies from the original metal filing cabinets into new oak flat file cabinets that had been purchased through the exhibit enhancement funds from

the FIE grant. He also assisted in entering the case histories into a new database that will provide printed drawer lists for the exhibit as well as provide collection information that can be made available online through the College website. The services of College staff member Doris Werner for primary data entry of the Jackson collection were also funded by the FIE grant.

Meng Chun Chen, also from the University of the Arts program, began work in June 2002 to refurbish the Abbe Cabinet exhibit with new label text produced by the Museum Director. She also reinstalled the Conjoined Twins exhibit in the Museum balcony cases; the exhibit had been temporarily condensed to one side of the balcony during the installation of a new lighting system in the cases.

The museum was successful in receiving a grant from the Philadelphia History Exhibitions Initiative to bring museum consultants Harold and Susan Skramstad to the College on May 21 and 22, 2002. After meeting with key College staff and members of governance, they issued a report recommending that the College increase investment in Museum staff, collections care, and storage, so that the Museum could eventually achieve accreditation from the American Association of Museums.

Museum and College Gallery Publicity and Outreach

In August 2001, a crew from Burrud Productions, based in California, came to the Museum to prepare a one-hour documentary which first aired on the Discovery Channel on November 25, 2001, and, due to its popularity, has been periodically rebroadcast nationally and internationally ever since. The documentary covers the history of the College, the Museum, and its collections, and shows how they relate to current and historical medical practices and to other medical museums such as the Fragonard in Paris.

In September 2001, Engel Brothers Media of New York filmed at the Museum for a segment of "The Mummy Road Show," which airs nationally on the National Geographic Channel. The show is hosted by Gerald Conlogue, a radiography professor at Quinnipiac College in Connecticut who has done many projects at the Museum, and his colleague, endoscopy professor Ron Beckett. Jerry Conlogue had suggested they film the Soap Lady as a follow-up to an X-ray study he had done in 1987 that served as the basis for the present Museum exhibit. Engel Brothers arranged for a portable CT scanner and technician to be brought from Georgetown University in

Washington to the College. The resulting 3-D images revealed a number of pathologies in the Soap Lady, including a ureterineal stone that may have caused an infection leading to her death. The Georgetown University PR department put out the story on the AP wire, resulting in coverage of the event by local TV and radio stations and newspapers, including the *Philadelphia Inquirer,* as well as the Associated Press.

The *News-Times* of Danbury, Connecticut, did a cover story in July 2001 on conjoint twins from Mexico brought to a local hospital for possible separation. They interviewed the Director for background information on the condition and also included Chang and Eng in a sidebar on historical examples. The Museum was also included in a program on "The Secret Life of Conjoined Twins," which first aired on The Learning Channel in January 2002.

The 2002 Mütter Museum calendar was mentioned in the *Philadelphia Magazine* and *British Medical Association News*. Articles featuring the museum as a travel destination appeared in the *Cultural Traveler's Guide,* the *Pennsylvania Convention and Visitors Bureau 2002 Meeting Planners Guide,* Philadelphia CitySearch.com, a Delta Airlines travel brochure, the *Business Traveler* magazine on travel destinations worldwide (the museum was the only destination listed for Philadelphia), the *Daily Pennsylvanian* (student newspaper for the University of Pennsylvania), an ad for Philadelphia travel produced by the Greater Philadelphia Tourism and Marketing Corporation that appeared in the *New York Times,* and *Medhunters* magazine. The Director did radio interviews on the Museum with Temple Update and 96.5 Radio in Philadelphia.

Additional TV projects, some of which will air in FY 2003, included an April 2002 shoot by local station WYBE on "Special Sites in the Delaware Valley," a May 2002 Travel Channel shoot on research use of the Museum collections, and a June 2002 Pine Ridge TV shoot for "Great Hotels in America." C-Span interviews with Dr. Marc Micozzi on the subject of presidential health and with Gretchen Worden on the Mütter Museum aired in May 2002.

The Museum Director provided tours of the Museum for special visitors to the College, as well as to groups from the Friends of Independence National Historical Park's Philadelphia Open House tour program, Foulkeways retirement community, the American Association for Cancer Research, and the American College of Psychoanalysts.

GRETCHEN WORDEN, DIRECTOR

Annual Report of the College Library

Library staff continued to perform splendidly as we made major advances toward final transformation of the College Library into a historical medical library. Library management proposed, and governance agreed, to close clinical and scientific collections at 1990. Although the library had continued collecting clinical and scientific items after that date, the materials budget throughout the 1990s was so small that our collections were not sufficient ever to be of historical significance. In contrast, for most of the nineteenth and first half of the twentieth century, the College Library stands among the most complete medical collections in the world, and for the period from 1951 to 1990 our collections range from first-class to more than satisfactory for the purposes of historical research.

Accordingly, during 2001–02, we began the process of deaccessioning post-1990 printed materials. We are, of course, retaining—and adding to—our collections of books and journals in history of medicine, and for the moment we are retaining the excellent collection of printed consumer health material that grew as part of the Community Health Information Center. (For information on recent developments and plans for the future of the college's consumer health enterprise, please see the report of the Director of Public Services).

Deaccessioning is an arduous process. It entails identifying the material to be discarded, changing the records in the catalog, and then looking either for someone to purchase the discarded material or for another institution that might be interested in taking it for the cost of moving it. This process is well underway. With the space we are creating, we will be able to continue adding to our collections of (1) history books and journals, (2) rare books and other materials published before 1991 that are not already in our collection, and (3) archival and manuscript materials.

Changing the mission of a library, and therefore radically altering the collection policy, is nothing new—especially in Philadelphia. Our sister institution, the Library Company, underwent much the same process in the 1950s. Like the College Library, the Library Company was established in the eighteenth century as an institution

whose function was to make current materials available to its members. With the founding of the Free Library of Philadelphia in the late nineteenth century, the Library Company no longer needed to serve as a central general reading library for the city and region. It took several decades for the Library Company to reappraise its situation, but it eventually deaccessioned much material that duplicated what was in the Free Library, and it transformed itself into one of the nation's leading scholarly resources for American literature and history through the mid-nineteenth century. The Philadelphia Athenaeum, in a similar situation, beginning in the 1960s deaccessioned many books and journals. Like the Library Company, the Athenaeum successfully converted itself from a membership library with a general collection into a specialized research library (in this case, a key collection for research in architectural history).

Early in the fiscal year, we received the very welcome news that the William Penn Foundation had agreed to fund a major grant that would cover several projects in the cataloging and conservation of our collections. The proposal, written before the present College Librarian was on board, was developed by the combined efforts of Charles Greifenstein (Associate Library Director and former interim Library Director), Joan McKenzie (Technical Services Coordinator), Edward Plocha (Development Director), and Marc Micozzi (former Executive Director of the College). Key William Penn projects begun this year include (1) conversion of all card catalog entries for journals and other serials into electronic records, (2) high quality cataloging of 15th-century books in the College Library collection, and (3) continued conservation work on rare books damaged in a 1978 flood.

Library staff members provide detailed reports on these projects as well as our routine service activities in the following contributions.

—Edward T. Morman, College Librarian

Withdrawal of Post-1990 Clinical Medicine Titles

Although the physical removal of all volumes and the closing of all online holdings records will require several more months, clinical medicine holdings were effectively closed as of January 2002, when interlibrary loan clients were notified that requests would no longer be processed for titles published after 1990.

We had generated a list of serial titles with holdings beyond 1990 as part of the William Penn-funded serials conversion project. After staff had identified titles to be retained as part of the historical or consumer health collections, serials cataloger Patricia Filemyr closed the holdings for the remaining 760 titles. Serial titles with call numbers will be processed with the monographs. Some volumes requested by other libraries have been removed from the shelves, and removal of the remainder will be completed in fiscal year 2002–03.

Withdrawal of monographs entails a more careful screening. Library Services Clerk Sharon Lutes moved titles published after 1990 to temporary shelves for review by staff responsible for both the historical and consumer health collections. Titles to be retained were returned to their shelves. Reference Librarian Chris Stanwood withdrew from CPPSource (our local online catalog)—and the OCLC national online union catalog—132 titles selected by other libraries for their collections. The remainder of the titles to be withdrawn, including selected volumes of serials with call numbers, will be processed in fiscal year 2002–03.

—Joan McKenzie, Technical Services Coordinator

William Penn Grant: 1. Serials Conversion Project

The object of this project is to ensure that all serials in the College's collection will be represented in CPPSource (our local online public access catalog), PaULS (the Pennsylvania Union List of Serials, accessible through the OCLC national system), and SERHOLD (the National Library of Medicine's union list of serials holding) with the most accurate possible holdings information.

There are an estimated 22,000 journal titles in the journal card catalog. Of these, 11,800 were listed in SERHOLD, and only 6,078 had summary holding statements in OCLC. An unknown number of titles have the College's holdings symbol attached to the OCLC record, but lack summary holdings.

Patricia Filemyr, a recent library school graduate and long-time staff member, accepted a half-time two-year appointment as serials cataloger for the project, beginning in November 2001.

The first step was to check a list of the College's serial titles represented in SERHOLD against CPPSource. This phase was completed

in March 2002. Of the 11,828 SERHOLD titles, 10,890 (92%) were represented in CPPSource, but 5,661 of those titles (52%) lacked holdings data. Several records presented problems of uncertain identification, holdings discrepancies, or duplication.

The next action, in conjunction with the weeding of clinical medicine titles from the collection, was to close at 1990 the holdings of 760 journal titles that will not be retained beyond that date. This phase was completed in early May 2002.

There were 842 titles represented in the College's collections in SERHOLD that lacked bibliographic records in CPPSource. Of these, 746 titles have been put into CPPSource and PaULS with very basic holdings information. The remainder require extensive work and will be deferred until later.

Future actions will include adding records and holdings for titles in the College's collection that are not represented in CPPSource, PaULS, or SERHOLD, and correcting or adding holdings information as needed.

—Joan McKenzie, Technical Services Coordinator

William Penn Grant: 2. Incunabula Cataloging Project

Preliminary Work

In October 2001, we inventoried the 415 volumes in the library's separately shelved collection of incunables (books printed before 1501) and compared the inventory to a list generated from CPPSource, which yielded only 278 titles. Because CPPSource was obviously incomplete, the books were checked against the shelf list card file. Both the shelf list and the corresponding records in CPPSource were based on the incunable catalogue compiled by College Librarian Charles Perry Fisher in 1919 and supplemented by College Librarian W.B. McDaniel in the 1960s. Entries in the Fisher catalogue, which had been the definitive guide to incunables in the College's collections, were annotated with call numbers, for easy retrieval. Regan Kladstrup, Rare Book Cataloging Librarian, University of Pennsylvania, cross-referenced the holdings in the Fisher catalogue with the entries in Goff's *Census of Incunables in American Libraries*. The Goff reference numbers have since superceded the Fisher entry numbers in our project.

On the recommendation of one of our consultants, Hope Mayo (Curator of Prints, Harvard University), we assembled (from our collection or by purchase) a number of journal articles on incunable cataloging and several bibliographies and other works essential to standard incunable cataloging.

Cataloging Workshop

On November 5, 2001, College Librarian Ed Morman convened a workshop to discuss current standards for full-level cataloging of incunables, so that the Library could provide the most complete and accurate access to its oldest books and best meet the access needs and interests of both book historians and medieval and Renaissance scholars. Attendees included Dr. Mayo, who has worked extensively with medical medieval manuscripts and incunabula; Paul Needham (Scheide Librarian, Princeton University), a foremost international expert on incunables and the compiler of a number of incunable catalogues for Sotheby's; Alain Touwaide, an independent scholar and leading expert on medieval and Renaissance medicine; Ms. Kladstrup; and the following College Library staff: Dr. Morman; Charles Greifenstein, Curator of Archives and Manuscripts; Laura Guelle, Curator of Rare Books; and Joan McKenzie, Technical Services Coordinator.

The workshop was extremely productive. Dr. Mayo, Mr. Needham, and Dr. Touwaide provided advice from their own fields regarding what types of information should be entered into the cataloging records and how to address the inherent difficulties of trying to catalog books which, for the most part, lack title pages and imprint statements. Much advice for interpreting and identifying provenance evidence and binding information was given as well. Especially helpful was a hands-on practicum of books present in both the College's and Harvard's library. We were able to examine the College's copies and check the information given in our poor records and Harvard's more extensive records against standard bibliographical resources for incunables, such as the British Museum's *Catalogue of 15th Century Books,* Goff's *Census of Incunabula in American Libraries,* the *Gesamtkatalog der Wiegendrucke,* and the Incunable Short-Title Catalogue CD-Rom (from which Dr. Mayo was kind enough to provide us a printout of our records). By the end of the day, clear guidelines emerged for what information should be entered into the cataloging records. These

guidelines are continually revised to address local needs dictated by our collection.

An incidental benefit of the workshop was the discovery that the Fisher catalogue, upon which the cataloging records in CPP-Source were based, was out-of-date, and, in many cases, inaccurate. Since its initial compilation in 1919, the standards for transcribing and cataloging incunabula have changed drastically and historical scholarship has revealed different author attributions and dates of publication for many incunables. The cataloging records we are now creating for our incunables will eventually lead to a far superior guide to pre-1501 books in our collection.

Continuing Roles of Workshop Participants

Ms. Guelle selected the first group of books to catalog, with preference given to (1) books not already in the CPPSource database, (2) books of particular historical significance, and (3) books of extreme rarity. She then created records for them using data available in the OCLC and RLIN databases. Each record included a detailed bibliographic description: author attribution, title transcription, imprint statement, statement of extent, collation and format determination, notes on physical characteristics, contents, provenance, and binding, and citations to standard reference works. After revision, she then entered the records into CPPSource, OCLC, and RLIN.

Ms. Kladstrup revised all of Ms. Guelle's records prior to their entry into the databases and made recommendations for improvement. She also established authority records for all names and titles not already present in the Library of Congress's authority files. Additionally, Ms. Kladstrup provided transcription for six incunables printed in Greek, and tracked down provenance information not readily available in the College's resources. She spent a fair amount of time learning heraldry terms to properly identify—or at least describe—coats of arms and armorial seals present in or on our books.

Dr. Mayo returned to Philadelphia twice to informally discuss the project status and review our cataloging procedures. She was particularly helpful in advising us on local policy decisions and in recommending additional sources of information about engravers and binders. She also took a look at many of the incunables bound in contemporary bindings and helped us identify their place of origin and type.

Mr. Needham was available to answer questions regarding provenance and bindings. His provenance file is extensive and he is eager to add new information found in our collections to it. He plans to visit the College soon to look at individual volumes and answer additional questions.

Dr. Touwaide had earlier created a personal catalogue of medieval medical manuscripts appearing in incunable editions. He assisted us with determining the presence of additional texts within a work, interpreting contemporary manuscript annotations in the books, and checking on copies of our incunables at the National Library of Medicine as necessary.

Cataloging Statistics

Since the November workshop, Ms. Guelle and Ms. Kladstrup cataloged 63 volumes thought to be incunables, but in the process learned that three of them have been identified as printed after 1500. These three books are being relocated to join other sixteenth-century books in the rare book stacks. As a result, by the end of fiscal year 2001–02, CPPSource provided access to 341 of the incunables in our collection, though only sixty of them have full records meeting current national standards.

Not only has this project improved the quality of our local cataloging records, but the international community that accesses OCLC and RLIN has benefited as well. As a result of cataloging the 63 books in OCLC, thirteen new records were added and nineteen records were upgraded to full level cataloging. Adding College cataloging to the RLIN database resulted in 32 new records available for use by other repositories. Additionally, 34 name authority records and sixteen title authority records were added to the Library of Congress's authority files. Both OCLC and RLIN provide catalogers with access to these authority files, which are essential for the uniform data entry of names and titles.

Significant Works Cataloged

Although every incunable is significant in its own right, a few of the incunables already cataloged should be singled out for mention here. The College is the sole holding library in North America for 34 incunables. Five of these have already been cataloged. Much time was spent accurately and extensively detailing the provenance of one of

the College's true treasures, the *editio princeps* (first printed edition of a pre-modern manuscript work) of Aulus Celsus' *De Medicina* (Florence: N. Laurentius, 1478), which was formerly owned by the renowned Renaissance tutor Giorgio Vespucci, uncle to the explorer, Amerigo; beautifully bound by the English bibliophile Henry Huth; and procured for the College by Sir William Osler, M.D. Also notable are the Latin (1478) and Greek (1499) *editio princeps* of Dioscorides' *De Materia Medica* and the five-volume set of Aristotle's works in Greek produced by the Aldine Press. The oldest book cataloged so far is probably one of the first medical incunables ever produced, Simon Genuensis' *Synonyma Medicinae* (3 Aug. 1473), the first medical dictionary.

One Additional Project Benefit

One extremely useful benefit of cataloging the incunabula was the wealth of provenance information that has been rediscovered. A book's provenance is a history of who owned it and when. Eventually, anyone with computer access will be able to tell who gave which books to the Library. Given that the majority of the rare collection was acquired through the generous donations of Fellows eminent in their fields, this information will be useful to medical historians in reconstructing prominent local physicians' libraries. Handwritten annotations in these books also help researchers understand how the books were read and used.

—Laura Guelle, Rare Book Curator and Cataloger

William Penn Grant: 3. Conservation

The first of the conservation projects funded by the William Penn Foundation is to restore the remaining untreated books damaged as the result of a roof leak in 1978. Five years ago, all two hundred water-damaged books (which had been freeze-dried at the time and thus preserved against damage from mold) still needed conservation work. A National Leadership Grant from the Institute for Museum and Library Services was used to restore seventy of these.

The Conservation Center for Art and Historic Artifacts (CCAHA)—an internationally recognized conservation firm whose lab and offices are within walking distance of the College—last spring did a preliminary survey of the remaining 130 books. Based

on the CCAHA estimate, we decided that two books would be too costly to repair (many books could be done for the cost of the two). We took fifteen to CCAHA as the first group to be conserved. The books include one incunable, a two-volume edition from 1511 of *Hortus sanitatus* (a medieval herbal) in a rare printer's paper binding, and a copy of the 1555 edition of Vesalius's *De humani corporis fabrica* in its original binding. This copy of the Vesalius appeared in the Library's first catalogue, published in 1818.

When the books were taken to CCAHA, Associate Librarian Charles Greifenstein and Rare Book Curator Laura Guelle consulted with CCAHA staff to further refine proposed treatment. Most of the remaining water-damaged books, however, are the ones in the poorest condition. Many will have to be rebound. In the worst cases, the paper will have to be washed, though close examination found that the paper in many books was flexible and not in need of labor-intensive washing. Where possible and desirable, original bindings will be restored, as is the case with the Vesalius and the *Hortus sanitatus*.

When returned to the Library, the books that were most severely damaged will be made available to researchers for the first time in twenty-five years.

—Charles Greifenstein, Associate Library Director

Report of the Curator of Rare Books

Highlights of fiscal year 2001–02 included the commencement of an inventory of the 12,000-volume rare book collection; a conservation needs assessment of items not surveyed previously; reports to official online bibliographies of library holdings; new acquisitions from College friends and Fellows; special showings of select Library treasures to classes, Fellows, and distinguished visitors; a new minor exhibition in the second floor foyer; and staff attendance at professional conferences and continuing education courses.

Collection Inventory and Conservation Assessment

The inventory of the rare book collection proceeded through approximately one-third or 4,000 volumes of the collection. As each book was inventoried, its physical condition was assessed for potential future conservation work, such as restoration or placement in a

protective housing. Volumes selected for future attention were mainly nineteenth-century books with loose boards. Approximately sixty sixteenth-century books in elaborate contemporary blind-tooled pigskin bindings with metal clasps were also selected as candidates for special boxes designed to preserve the clasps and prevent them from injuring nearby books.

All fifteenth-century books were inventoried and now the College can accurately boast of owning 420 incunable editions. This is the fourth largest collection of incunabula in the Philadelphia area and the third largest collection of medical incunabula in the United States. The highlight of the incunable inventory was discovering that the Library owns the only North American copy of *Expositio super Antidotario Mesue* (Bologna: Henricus de Harlem & Johannes Walbeck, 1488), by Christophorus Georgius de Honestis. This work, which is a commentary on the remedies recommended by the medieval Arab physician Mesue, raises the total of fifteenth-century books for which the Library owns the only copy in North America to 34!

Official Recording of Holdings

Once word that the College had begun to re-catalog its collection of incunables had spread through the rare book community, Stephen Tabor (Early Printed Books Curator at the Huntingdon Library, San Marino, California) contacted the College Library to verify the College's incunable holdings in the Incunabula Short Title Catalogue (ISTC), an electronic census of all the extant incunables in the world. All copies of the Library's fifteenth-century books have been verified and updated for the official international record.

The curator was also contacted by David Stumpp of the Center for Bibliographical Studies and Research, University of California, Riverside, to verify the College's holdings of books printed in England or printed in English outside of England for the English Short Title Catalogue (ESTC). A handful of books meeting these criteria were verified. However, we are putting off making a full report until we have completed the rare book inventory. At that time, it is expected that a few thousand volumes of the Library's rare collection will be recorded in this official online bibliography.

New Acquisitions

Upon College Librarian Ed Morman's visit to the Institute of the History of Medicine of the Johns Hopkins University, Institute Librar-

ian Christine Ruggere (formerly the College's Curator of Historical Collections) presented him with one of Hopkins's two copies of a rare German edition of George Fordyce's treatise on fevers, which she knew the College did not own:

> Fordyce, G. *Ueber das regelmassige anhaltende Fieber und bessen grundliche Curart*. Translated by Dr. C.F. Michaelis. Zittau and Leipzig: J.D. Schops, 1799.

Dr. Francis Schumann (F'50) graciously donated three books, which had belonged to his father, Edward Schumann, M.D. (1879–1970, F'21). These included a sixteenth-century treatise on obstetrics, embryology, and teratology and two nineteenth-century obstetrical flap-books, all in excellent condition:

> Rueff, J. *De conceptu et generatione hominis*. Frankfurt am Main: P. Fabricius, for S. Feyerabendius, 1587.

> Spratt, G. *Obstetric tables*. 1st American ed., from the greatly improved 4th London ed., carefully revised and with additional notes and plates. Philadelphia: Thomas, Cowperthwait & Co., 1848, c1847.

> Spratt, G. *Obstetric tables*. 3rd ed. London: Published for the author by J. Churchill, 1838. Vol. 2.

Special Showings

Donor Recognition Night in November 2001, which commemorated completion of the restoration of Mitchell Hall, provided Fellows with an up-close glimpse of some of the Library's treasures. Among the significant books on display were William Harvey's *Exercitatio anatomica de motu cordis et sanguinis in animalibus* (Frankfurt: G. Fitzeri, 1628) and John Morgan's copy of Giovanni Morgagni's *De sedibus, et causis morborum per anatomen indagatis libri quinque* (Venice: Typo. Remondiniana, 1761), inscribed by the author.

When Pennsylvania Governor Mark Schweiker visited the College in March 2002 to sign a major medical malpractice bill into law, he was shown the Library's first edition copy of *De humani fabrica libri septem* by Andreas Vesalius (Basel: J. Orpini, 1543).

In April 2002, Dr. Paul R. Mehne, Ph.D., Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, brought 40 third-year medical students to the College for a tour of medical history that included seeing authentic influential textbooks

of earlier times. These included Joannes Ketham's *Fasciculus medicinae* (Venice: J. and G. Gregoriis, 1493) and an herbal, *Hortus Sanitatis* (Strasbourg: J. Pruss, ca. 1505). The students were also exposed to the nineteenth-century fad of binding books in human skin. The Library is fortunate to own a very appropriate example: Joseph Leidy's personal copy of the first edition of his *Elementary treatise on human anatomy* (Philadelphia: J.B. Lippincott, 1861).

The Library was honored to show some of its collections to Dame Dierdre Hine, President, and Dr. Anne Grocock, Executive Director, of the Royal Society of Medicine, who visited the College in May 2002. A number of incunables and sixteenth- and seventeenth-century books were shown, including the *editio princeps* (i.e., first printed edition of a pre-modern manuscript) of *De medicina* by Aulus Celsus (Florence: N. Laurentius, 1478), which 23 Fellows, including Sir William Osler and S. Weir Mitchell, acquired for the Library in 1913; the *editio princeps* of Avicenna's collected works in Arabic (printed for a noble patron on blue paper in Rome by Typografia Medicea in 1593); and a stunningly hand-colored folio plate of a fetal sheep from Fabricius ab Aquapendente's *De formatu foetu* (Venice: F. Bolzettam, 1600).

Preservation Exhibition

To celebrate a citywide effort to promote the preservation of national treasures, Charles Greifenstein, Curator of Archives and Manuscripts, assembled a display of books, manuscripts, and prints to support the need for conservation and explain some of the methods for carrying out that work. The theme "Complements and Conflicts: Preservation as Access and the Library of the College of Physicians of Philadelphia" explained how the Library's conservation efforts facilitate prolonged access to materials that otherwise would disintegrate to the point of disrepair and disuse. The exhibition was put on display in the second-floor foyer.

—Laura Guelle, Rare Book Curator and Cataloger

Report of the Curator of Archives & Manuscripts

The Library received a number of interesting manuscript collections during 2001–2002.

Nancy Cornman, widow of College Fellow Henry Cornman III, M.D., donated to the College a set of Dr. Cornman's patient records. Dr. Cornman centered his practice on the treatment of diabetes mellitus. His records thus provide a view of how treatment of diabetes evolved through the middle and latter years of the 20th century.

Two collections were acquired that record the daily practice of physicians. Fellow George S. Hermann, M.D., donated two daybooks/diaries of his grandfather George N. Hermann. They date from 1895–98 and record his grandfather's early years of practice. Josephine Ullom Evans donated 39 daybooks created by her father, College Fellow Josephus Tucker Ullom (1877–1965), dating from 1903–1945.

The College acquired through Fellow William Helfand two collections. One is 34 volumes of lecture notes taken at Hahnemann Medical College from 1903–05 by William Geisinger Moyer. The other added approximately 150 items to the Helfand-Radbill Medical Bookplate Collection.

Prof. Bert Hansen of Baruch College in New York City donated to the College four letters relating to Philadelphia and yellow fever. The letters are from private citizens who are worried about fever in the city—not during the famous 1793 epidemic, but during serious outbreaks in 1794 and 1799.

Finally, a collection of letters relating largely to medical publishing was given to the College by Mark Willcox, grandson of Fellow John M. Keating (1852–1893). A pediatrician, Keating was a prolific author and editor, noted especially for his *Cyclopædia of Diseases of Children*. There are approximately 248 letters in the collection, dated 1891–93, from such publishing notables as W.B. Saunders and Charles Lea. The collection also contains letters not directly relating to publishing from such physicians as William Osler and J.M. Da Costa.

Three important collections were processed. The processing of the papers of Walton Brooks McDaniel (1897–1975) and of Elliott How Morse (1916–1992) was completed. The project was made possible by a grant from the Pennsylvania Historical and Museum Commission. Nearing completion is the processing of the papers of Fellow Edward O. Shakespeare (1846–1900), a bacteriologist and public health official. An archival intern from Temple University is doing the processing. (See *Fugitive Leaves*, Tipped In for more on E.O. Shakespeare.)

—Charles Greifenstein, College Archivist and Curator of Manuscripts

Statistical Report of the Technical Services Department

Acquisitions

Monographs	
Historical Library	
Purchase	183
Gift	164
Consumer Health Collection/CDC-Funded	
Purchase	121
Gift	18
Videos	44
Serials	
Subscription Titles (Total)	42
New Titles for 2002	7
Gift Titles	22
Exchange Titles	4
Titles Cancelled for 2002	30
Issues Checked In	1206
Titles Withdrawn	57

Cataloging

Monographs	
Historical Library (Total)	355
New Titles	319
Retrospective Cataloging	36
Consumer Health Collection	212
Pamphlets	
Historical Library (Total)	21
New Titles	19
Retrospective Cataloging	2
Consumer Health Collection	0
Serials	
Historical Library (Total)	25
New Titles	19
Retrospective Cataloging	6
Consumer Health Collection	5
Online Journals	6
Journal Analytics	
Historical Library (Total)	6
New Titles	4

Retrospective Cataloging	2
Consumer Health Collection	0
Videos	39
Audiocassettes, CD-ROMS, Other Misc	3
Online Sites	3
Original Records Contributed to OCLC	48

—Joan McKenzie, Technical Services Coordinator

Report of the Reference Librarian

Circulation and Interlibrary Loan (ILL) Statistics

1,094 loans were requested by other libraries, down from 1,288 in 00–01. We were able to fill only 140, compared to 233 for fiscal year 00–01. This decline in service (due to our deaccessioning), combined with increase in the use of the ILL Fee Management (IFM) automatic billing system, has led to a marked decrease in manual billing, thus freeing library staff for other work more in keeping with our mission as a historical resource.

On the other hand, loans to Fellows, staff, and other qualified non-institutional borrowers increased as compared with last year. Loans to Fellows rose from 20 in fiscal year 00–01 to 29 in 01–02. The number of books loaned to staff swelled from 4 in fiscal year 00–01 to 48 in 01–02.

Reading Room

Reading Room traffic increased over last year: 918 readers in 2000–01, and 1,006, or an average of 84 per month, in 2001–02. While the number of visitors to the library increased, the amount of material paged from the stacks decreased. The nearly 3,000 stacks volumes and 1,500 cage books paged in fiscal year 01–02 was markedly off compared to fiscal year 00–01 when 4,000 stacks volumes and 1,150 cage books were paged. Requested manuscript material, on the other hand, remained steady at about 570 items for each fiscal year.

Reference Services

Email, phone and postal reference questions decreased slightly from last year. Reference phone calls declined from 204 in fiscal year

00–01 to 161 in fiscal year 01–02. Reference letters (includes written, email, and faxes) were also down somewhat, from 340 in fiscal year 00–01 to 318 in 01–02. On the other hand, image orders and tours rose in fiscal year 01–02 from 12 and 18 respectively in fiscal year 00–01 to 22 and 20 respectively in fiscal year 01–02.

An Interesting Reference Question

Last spring a couple in Connecticut emailed a question about the "Voynich Manuscript." Attributed to Roger Bacon (1214?–1294) and written entirely in code, the Voynich Manuscript had been purchased by book dealer Wilfrid Michael Voynich (1865–1930) in Italy in 1912. By 1921 the manuscript, or cipher, had been handed to William Romaine Newbold (1865–1926) of the University of Pennsylvania for decoding. The text, according to Newbold, was, in reality, microscopic letters arranged to resemble an ancient Greek form of shorthand. According to Newbold's translation, Bacon's manuscript was a rambling account of English history, geography, and science. Newbold's interpretation translation has since been discredited, when it was discovered that his "microscopic letters" were really age-induced cracks in the manuscript's ink.

The Connecticut couple had found a reference for two articles on the Voynich Manuscript in the 1921 edition of *Transactions and Studies of the College of Physicians of Philadelphia*. The articles turned out to be papers read at the College by Voynich (*T&S*, ser.3, v.43: 415–430) and Newbold (*T&S*, ser.3, v.43: 431–473) on April 20, 1921, as part of the Mary Scott Newbold Lecture series. Without further thought, we copied the articles and mailed them to Connecticut.

A few months later a call came from a British television company that was making a documentary film on the Voynich Manuscript. They were looking for information and images on anything to do with the Voynich Manuscript, Voynich himself, and Newbold. Rarely do two requests for something so obscure come so close to one another.

This required a more in-depth search than the previous Voynich request. We located a cataloging record for an autograph letter from Voynich, but it turned out to be missing and we now assume that it is lost. Newbold himself wrote a book titled *The Cipher of Roger Bacon* (1928) that, while interesting, is extremely detailed and laborious to read. The best find, however, turned out to be Philadelphia newspaper clippings and College of Physicians of Philadelphia man-

uscript letters (CPP Call# ZZ1a 78) concerning the April 1921 Newbold Lecture. The clippings are in wonderful condition and include both detailed articles regarding the manuscript and rare pictures of Voynich and Newbold separately and seated together.

On further inspection, the letters (nine in all) turned out to be correspondence between Newbold and Voynich and Dr. William J. Taylor (1861–1936). Taylor (CPP President 1919–1921), a very active Fellow from his induction in 1889 until his death, was instrumental in the establishment and administration of the Mary Scott Newbold Lectures (named for Taylor's sister-in-law and funded through a donation by her husband, Clement B. Newbold) held at the College throughout the twentieth century. The College has in its manuscript collection 42 other pieces of correspondence from Dr. Taylor (MSS 2/0264-01). These nine newly rediscovered and uncataloged letters and clippings represent a wonderful addition to the Taylor manuscript material and shed new light on Voynich, Newbold, and Bacon's manuscript.

—Christopher Stanwood, Historical Reference Librarian

Annual Report of the Francis C. Wood Institute for the History of Medicine

For several years after the 1997 resignation of Institute Director Thomas Horrocks, the professional staff of the College Library and the Mütter Museum maintained a limited number of the programs of the Wood Institute, mainly the lunchtime seminars and the Wood Fellowships. With Ed Morman's accession to the position of College Librarian and Director of the Wood Institute in July 2001, it was time to develop new momentum.

Wood Research Fellowship Program

Before coming to the College, in his capacity as a consultant, Dr. Morman had worked with Charles Greifenstein (then interim library director) and Gretchen Worden (Director of the Mütter Museum) in selecting the 2001–02 Wood Fellows:

K. Walter Hickel, National Library of Medicine. "The Child Welfare Movement and the Politics of Disability in America, 1890 to 1960."

Richard J. Kahn, M.D., Dartmouth Medical School and general internist, Union, Maine. "A Brief History of Epidemic and Pestilential Diseases by 'that pestilential writer,' Noah Webster."

Paul E. Kopperman, Oregon State University. "Therapy and Paradigm: British and American Theories on Treating Yellow Fever, 1750–1820."

Kenton Kroker, McGill University. "The First Modern Plague: Epidemic Encephalitis in America, 1919–39."

Sarah E. Mitchell, University of Southampton, UK. "Changing Ideas of the Conjoined Body: A Social and Cultural History, c. 1800–2000."

Christine Quigley, free-lance writer. "Conjoined Twins."

Michael Soller, University of California, Los Angeles. "The Strange Case of Silas W. Mitchell: Writing and Injury in the Gilded Age."

Sandra M. Sufian, Kaiser Center for Health Research. "A Hygienic Transformation: Zionist Public Health Programs and National Identity During the British Mandate Period in Palestine, 1918–1947."

We were pleased with this group of scholars, and especially pleased that several of them agreed to have reports on their work published in this issue of *Transactions and Studies*.

Research Seminars

Following a lapse of about one year, the Wood Institute seminar program resumed in December 2001, with a presentation by Wood Fellow Kenton Kroker. Our spring 2002 series was co–sponsored by the Center for the Study of the History of Nursing at the University of Pennsylvania, and featured discussion of papers presented by two College Fellows, three nurse-historians associated with the Center, two scholars from the Chemical Heritage Foundation, and other local historians. The approximately biweekly programs alternated between the College of Physicians and the University of Pennsylvania School of Nursing:

December 13, 2001: Kenton Kroker, Ph.D., post-doctoral fellow, McGill University, "Encephalitis in the Laboratory & the Clinic, 1917–39."

January 16, 2002: Cynthia Connolly, Ph.D., RN, Columbia University School of Public Health and office of Senator Paul Wellstone, "History and the 'Hill': The Uses and Misuses of History in a Political Setting."

January 23, 2002: Gerard Fitzgerald, Carnegie-Mellon University and the Chemical Heritage Foundation, "Engineering Droplet Nuclei: William Firth Wells, Aerobiology, and the Evolution of Airborne Disease, 1933–1947."

February 6, 2002: James Armstrong, RN, Penn Starr Flight Nurse, "1918 Spanish Influenza in Philadelphia."

February 20, 2002: Arthur Daemmrich, Ph.D., Cornell University and the Chemical Heritage Foundation, "Invisible Monuments and the Costs of Pharmaceutical Regulation: Thirty Years of Drug Lag Debate in the United States."

March 6, 2002: Jean Whelan, Ph.D., RN, University of Pennsylvania, "Expecting Too Much from the Law: The 1938 New York State Mandatory Nurse Practice Act."

March 20, 2002: Edward Leonard, M.D., Friends Hospital, "Some Medicinal Properties and Deleterious Qualities of Cantharides (Spanish Fly) in Early American Psychiatry."

April 3, 2002: Richard A. Leiby, Ph.D., Rosemont College, "Fighting a War of Nutrition: Food and Ration Policy in Occupied Germany."

April 17, 2002: Ann Starr, Visual Artist and Independent Scholar, Wellesley, Massachusetts, "How to Look at a Monster: Historical and Contemporary Images of the Monstrous Birth."

May 1, 2002: Zachary Friedenberg, M.D., University of Pennsylvania Health System, "The Role of the Naval Surgeon in the Age of Sail."

Undergraduate and Continuing Medical Education

During the two years prior to Dr. Morman's arrival at the College, former Executive Director Marc Micozzi negotiated with representatives of the Measey Foundation to augment the Wood Institute endowment by creating within the Wood Institute a "Measey Chair in Medical History." As holder of that chair, Dr. Morman's responsibilities include intervention in medical education, particularly at the undergraduate level.

Most of what we can report this year involves planning for future activities. Dr. Steven J. Peitzman, a College Fellow and Professor of Medicine at the Drexel University School of Medicine, invited Dr. Morman to conduct one session of his elective medical history class in March 2002. Dr. Morman lectured on the early development of medical microbiology. Dr. Peitzman and Dr. Morman anticipate continued involvement of the Wood Institute in Drexel's extensive medical humanities program. Dr. Morman also started discussions with key administrators at the University of Pennsylvania and Thomas

Jefferson University about how he might enhance the medical history curriculum at each school. One Jefferson medical student, Barry Schlansky, independently began working in the College Library at the end of June 2002. Out of the reading tutorial he conducted with Dr. Morman emerged the book review that appears in these pages.

Dr. Morman has also provided individualized service to several College Fellows and other health professionals needing assistance in their research and writing. Aaron Barber, M.D., an M.A. student in the Bioethics Department at the University of Pennsylvania, took the graduate history of medicine course Dr. Morman offered through Pennsylvania's Department of History and Sociology of Science. His term project was impressive and Dr. Morman continued working with him on it. A revised version appears in this number of *Transactions and Studies*.

Other Planning

During fiscal year 2001–02, with the cooperation of College Library and Mütter Museum staff, and with the assistance of the Section on Medical History and other College Fellows, Dr. Morman began planning programs for long-term scholars-in-residence, publication of monographs, renewed and increased collaboration with other regional cultural institutions, conferences on various medical humanities topics, and an archival center for bioethics. We hope to report on further developments in these and other areas in future annual reports.

EDWARD T. MORMAN

Noah Webster, Epidemiologist, Revisited: Publication of *A Brief History of Epidemic and Pestilential Diseases*, 1799

Richard J. Kahn

In 1800 William Cobbett, a British journalist who had been working in Philadelphia, referred to Noah Webster as "that pestilential writer" and wrote that Webster would have been a "very tolerable teacher"; but because of his medical writing and support of Benjamin Rush, had "rendered himself, successively, an object of indignation, contempt, ridicule, and pity."[1] A year later John Haygarth, a British physician with special interest in fever and epidemics, wondered why Webster, "an author of so respectable a character, has ventured to publish such whimsical and irrational opinions" on medical topics.[2] But in 1832 Daniel Drake would recommend Noah Webster's "learned, but neglected work on epidemic diseases" to those interested in the relationship between the natural environment and disease.[3] More than a century later, in 1969, historian James Cassedy referred to a number of physicians of the seventeenth and eighteenth

[1]William Cobbett, "Anecdote of Rush and Noah Webster, jun. Esquire," *Rush-Light,* 28 February 1800, p. 50–1. The *Rush-Light* was a periodical written by Cobbett with the express purpose of humiliating Rush; seven numbers were issued in 1800. J.S. Billings, "Literature and Institutions" in *A Century of American Medicine: 1776–1876,* ed. Edward H. Clarke (Philadelphia: Henry C. Lea, 1876), pp. 291–399, see p. 338.

[2]John Haygarth, *A letter to Dr. Percival on the prevention of infectious fevers: and an address to the College of Physicians at Philadelphia, on the prevention of the American pestilence* (Bath: Crutwell, for Cadell & Davies, London, 1801), p. 155.

[3]Daniel Drake, "Epidemic Cholera in Cincinnati," *Western Journal of the Medical and Physical Sciences,* 1832, 6, 321–64, see p. 349.

centuries who were attempting to understand epidemics by using meteorological data and vital statistics, and concluded, "It was the layman, Noah Webster, who later conceived and carried out a quantitative, neo-Hippocratic correlation of the global magnitude that Locke had in mind."[4]

My paper proposes that Webster's letters and published works in historical epidemiology influenced Benjamin Rush and others and made an important contribution to the debate on epidemic disease at the end of the eighteenth century. Though "his ideas were not strikingly original," his extensive research produced one of the first general histories of epidemic diseases that continue to be cited.[5] *A Brief History of Epidemic and Pestilential Disease,* published in 1799 is, according to historian of public health C.E.A. Winslow, "the best general summary of epidemiological opinion at the beginning of the nineteenth century which is extant."[6]

How did Webster gather material for his book, what did he write, and what problems were associated with its publication? How does his work fit in the context of other books and pamphlets on pestilential, bilious, and yellow fever published between 1792 and 1802, and other contemporary printed material on the subject?

The 2001 Francis Clark Wood Institute Resident Research Fellowship allowed me to pursue the writings of Rush, Currie, and others found at the Library of the College of Physicians and helped me

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[4]John Locke, physician and philosopher (1632–1704). James Cassedy, "Meteorology and Medicine in Colonial America: Beginnings of the Experimental Approach," *J Hist Med Allied Science,* 1969, 24, 193–204, p. 204 and James H. Cassedy, *Demography in Early America: Beginnings of the Statistical Mind, 1600–1800* (Cambridge: Harvard University Press, 1969), pp. 297–304.

[5]Daniel Boorstin wrote that John Locke's "ideas were not strikingly original or subtle" but he was open to new ideas. See Daniel J. Boorstin, *The Seekers: The Story of Man's Continuing Quest to Understand His World* (New York: Random House, 1998), pp. 153-59. There were a number of eighteenth–century monographs on various diseases but Webster made "one of the first attempts at a synthesis." See Erwin H. Ackerknecht, *History and Geography of the Most Important Diseases* (New York: Hafner Publishing Company, 1972), p. 5.

[6]C.E. Winslow, *The Conquest of Epidemic Disease: A Chapter in the History of Ideas* (Princeton: Princeton University Press, 1943), p. 215. Webster's work was cited by Daniel Drake, as mentioned above, but also by lesser known early nineteenth–century American "epidemiologists" such as in Jeremiah Barker's unpublished manuscript, *Diseases of the District of Maine* written between 1797 and 1821 (Maine Historical Society Collection 13) and in Joseph A. Gallop, *Sketches of Epidemic Diseases in the State of Vermont* (Boston: T.B. Wait & Sons, 1815). Gallop writes, "Mr. Webster is chiefly a compiler, but his authority is good . . ." See p. 99.

put the "Medical Webster" in perspective. I am particularly interested in how Rush and Webster may have influenced each other and how contemporary writers viewed Webster's medical thoughts. The extensive collection at the College of Physicians Library allowed me to access nearly one hundred books and pamphlets appropriate for my paper.

Therapy and Paradigm: British and American Theories on Treating Yellow Fever, 1750–1820

Paul Kopperman

I was fortunate and grateful to receive a fellowship to work in the collections of the College during August. My original proposal outlined a project on the evolution of yellow fever therapy as reflected in British and American medical literature, 1750–1820. The nature of this project was both narrowed and expanded during my time at the College. It narrowed in the sense that I became interested in the therapy that Benjamin Rush developed in 1793. I am currently nearing completion of an article in which I analyze his therapy and attempt to place it in the context of contemporary thought and practice. This article served as the basis of a talk that I gave at the College in November 2002. My broader topic has broadened still more. What I now intend to do is to write a small book that traces, on the one hand, the decline of Greek influence over British and American medicine and, on the other, the progressive evolution of different strategies to treat yellow fever, 1750–1860. The two topics may seem to be distinct, but I see a strong connection between them.

During my month at the College, I focused on printed works published between 1800 and 1860 and on books published 1750–1800, but not in an American edition (18th-century American publications being widely accessible in microform). I also checked out the relevant manuscript holdings of the College, as well as its fine collection of periodicals on the history of medicine. My work was very successful, providing me with almost all of the material that I needed for the Rush article, plus affording me a good start on my broader project. I took notes on about forty publications all told. Of the manuscripts, the most important were three sets of lecture notes taken at different times by students of Benjamin Rush.

I could not have hoped to accomplish more in a one-month stay, and I feel lucky that I will remain in the Philadelphia area through the fall, since I hope to use the College collection to do further work on yellow fever literature, as well as to complete research on several other projects in the field of medical history. It is truly a pleasure to have regular access to a first-rate collection of rare books on medicine.

The First Modern Plague: Epidemic Encephalitis in America, 1919–39

Kenton Kroker

Epidemic encephalitis, which blossomed in the interwar period, came and went without anyone really understanding what it was. Shortly after Austrian neuroanatomist Constantin Von Ecomono described a new disease featuring flu-like symptoms, extreme lethargy, and eye paralysis in 1917, similar cases of "encephalitis lethargica" began appearing in the northeastern United States. Most investigators initially thought the disease was caused by a "filterable virus," but after two decades of research, the disease had mysteriously disappeared, and they had failed to isolate its causal micro-organism, leading some to suggest it had never been an infectious disease in the first place. My historical research attempts to reconstruct the neurological, epidemiological and bacteriological concepts, practices and institutions that nurtured epidemic encephalitis as a disease category, only to abandon it by the dawn of the Second World War.

New York City soon emerged as the focal point of the North American epidemics. The largest number of cases were found here, as was the greatest concentration of encephalitis research. Archival and published sources indicate that neurologists there embraced the disease as a unique opportunity to establish their hegemony over their European counterparts. Having lost poliomyelitis, syphilis, and neurasthenia to other medical specialties, New York neurologists hoped encephalitis would serve as a "model disease" through which they could extend their professional expertise into twentieth-century public health.

After renaming the disease "epidemic encephalitis," the New York researchers successfully created philanthropic and institutional support for their investigations. Basing their efforts out of the New York Academy of Medicine (NYAM) and the Neurological Institute of New York, they enjoyed generous support from William J. Matheson, a wealthy manufacturing chemist and scientific philanthropist. The "Matheson Commission" published four reports on epidemic encephalitis between 1929 and 1941, but came to few conclusions

regarding the true nature of the disease. The discovery of new "variants," such as Japanese B and St. Louis encephalitis, the aetiology of which was demonstrable by laboratory experiments, encouraged a new skepticism about the nature of epidemic encephalitis as a distinct disease entity. By the beginning of the Second World War, the investigation of the disease had been all but abandoned. With its sponsor dead, the Matheson Commission effectively concluded its study of epidemic encephalitis.

Archival sources held at the College of Physicians of Philadelphia (CPP) suggest a rather different response to the disease. They offer a more quotidian picture of epidemic encephalitis as a troubling new clinical problem, not as a potentially useful investigative model.

Admissions records of the Philadelphia Orthopaedic Hospital and Infirmary for Nervous Diseases from the 1920s and 1930s are terse, but nonetheless helpful. They provide rudimentary biographical data on patients, dates of admission and discharge, ward assignment, diagnosis, the name of the attending physician, and change in condition upon leaving the hospital. Philadelphia Orthopaedic was the oldest neurological hospital in the country, so it is no surprise to find that a substantial number of encephalitis patients went there for medical care. Between 1–3% of the 830–1,100 patients admitted each year were diagnosed with encephalitis or its sequelae. While epidemic encephalitis was officially a disease of winter and early spring (thus distinguishing it from the mosquito-borne versions that have recently captured the media's attention), patients often arrived in late summer or autumn, and they stayed for extended periods: three months was common, and the longest recorded stay was a few days short of a year. These patients undoubtedly provided a useful resource for teaching students and practitioners about this protean disease, which, neurologists insisted, was usually misdiagnosed as influenza, if its acute form wasn't ignored altogether.

Most patients paid for the privilege of diagnosis, and for what limited treatment the hospital might offer. The proportion of free patients tended to hover around 10%, which was the same proportion of free patients in the general hospital population at the time. Between 1920 and 1923, patients were diagnosed with "encephalitis" or (occasionally) "sleeping sickness," and were almost always discharged "cured" or at least "improved." Treatment relied on old standards: hyoscine or (in more serious cases) strychnine. But around 1924, the disease began to take on a chronic character, in keeping with the general tenor of American public health concerns at the time. Patients frequently received the diagnosis of "Encephalitis—P.A. type," or "postencephalitic Parkinsons." Interestingly, they were still

discharged with the same sparkling optimism about their improved condition, which continued to rely on the same old drugs. Very few patients died in hospital, despite the fact that the disease's mortality rate was estimated at anywhere between 10% and 30%.

There are hardly any cases of Parkinsonism in these records that are not attributed to encephalitis. This could indicate a decisive connection between the two, but it could just as easily be wishful thinking, as there was no definitive diagnostic test available. The casebooks of Charles Walts Burr (1861–1944), who saw encephalitis patients from 1928–1941 in the wards and at the out-patient clinic of Philadelphia Orthopaedic, indicate that many patients he diagnosed with encephalitis gave no history of an acute encephalitis, or even of influenza. Like many neurologists, Burr anticipated this connection when he interviewed his patients: he routinely recorded that the patient "denies acute encephalitis" or "denies influenza," almost as though he were seeing a tertiary syphilitic who "denied" having syphilis.

In fact, Burr frequently suspected syphilis was the true cause of his patients' degenerative nervous condition, and his casebooks indicate that he was particularly likely to suspect this if the patient in question happened to be black. H.U., for example, was a 22-year-old Philadelphia native who suffered a "nervous breakdown" in 1920. He complained of double vision, and was perpetually sleepy. He had had numerous Wassermann tests (most of which came back negative) before Burr saw him, but Burr insisted on ordering yet another test, presumably in an attempt to convince the man's father than the patient should immediately undergo fever therapy. B.C., a 32-year-old black chauffeur from Virginia, saw Burr in October of 1929. He reported no incidence of encephalitis or influenza, but did experience a "tremor of the head" while in the army in 1918. Now he walked with a stiff gait, his arms close by his sides. Burr immediately ordered a Wassermann, which came back negative.

Although Burr did order Wassermann tests in some of his *published* cases of white patients, his private casebooks do not offer similar examples. This perhaps reflects Burr's deep-seated and well-known eugenist opinions. In addition to serving as the first Chair of Psychiatry at the University of Pennsylvania (1901–30) and as the President of the American Neurological Association (1908), Burr had also recently been elected President of the National Eugenics Research Society (1926).

Burr argued racial differences were to blame for encephalitis's diverse clinical profile. A clinician thus had to understand the "soil" before he could sort out which symptoms were caused by an

infectious agent, and which were the result of racial degeneration. One of his patients, a 19-year-old German-Russian Jewish male, suffered from paralysis agitans as well as adolescent dementia. Burr described the mother as "neurotic" and "hysterical," while the father was "prone to outbursts of causeless anger" alternating with "periods of depression." The boy's movement disorder, Burr argued, was the product of encephalitis, but his dementia was surely part of his inheritance.

Burr, along with fellow neurologists Theodore Herman Weisenburg (1876–1934) and Francis Wharton Sinkler (1877–1954), oversaw the care of the majority of encephalitis patients at Philadelphia Orthopaedic. But, unlike their counterparts in New York, they never developed a coherent, institutionalized research program for studying the disease. At most, encephalitis in Philadelphia merely provided fodder for Burr's fears of racial degeneration. The only systematic studies of encephalitis in Philadelphia came not from neurologists, but from two psychiatrists, Earl D. Bond and Kenneth Appel. Both psychiatric reformers, Bond and Appel created a unique school for the re-education of post-encephalic children at the Pennsylvania Hospital in 1924, the results of which were published in 1931. Their report said nothing of racial degeneration, and focused instead on the social and economic status of their patients' families.

Eugenist interests were shared, although perhaps not so readily expressed, by neurologists in New York, just as they were in Philadelphia. So why did encephalitis develop differently as an object of neurological knowledge in the two cities? Local conditions certainly had an important effect here. Neurologists insisted that encephalitis was a new disease that usually went undiagnosed; its evaluation was very much a problem of information. If clinicians were unable to see a coherent disease beneath a myriad of bewildering symptoms, encephalitis went undiagnosed. Neurologists in New York enjoyed a remarkably strong network during this period that their Philadelphia counterparts seem to have lacked. New York neurologists had an intimate association with city and state public health authorities, and they repeatedly exploited this to their advantage, ultimately forging the Matheson Commission out of the NYAM's Commission on Public Health (itself run by a neurologist, Charles Loomis Dana). This gave them access to a huge number of records, the authority to coax physicians into submitting detailed patient records, and a mandate to launch a broad educational campaign. The CPP's Public Health Committee, in contrast, heard but two lectures on encephalitis during this period, both of which were delivered by Burr, who

seems to have already solved the mystery of the disease to his own satisfaction.

My thanks to the Resident Research Fellowships Review Committee at the Wood Institute for the award that made this research possible, and also to the expert assistance of Ed Morman and the staff at the CPP, who made my time there enjoyable & profitable.

Conjoined Twins

Christine Quigley

It is strange which object will make the emotional connection to the past for a researcher. For me this time it was an original drawing of a horse made in 1892 by conjoined twin Giovanni Tocci. Giovanni-Batisto and Giacomo Tocci (b. 1877) are immortalized by photographs, medical reports, and news stories during their early years, but not much is known about them after 1912, although they were said to have lived into their early sixties. Although I wasn't able to track down the town where the Toccis retired, the Library of the College of Physicians of Philadelphia and the Mütter Museum director's files held a wealth of other information, both historical and contemporary, including this original drawing. I added immensely to the store of information I have compiled for my *Encyclopedia of Conjoined Twins,* which is due to the publisher in September 2002.

I spent the first day with museum director Gretchen Worden. From her files, I gathered facts about many sets of conjoined twins, including the Bandas, the Biddenden Maids, the Binders, the Blazeks, the Cady twins, the Godino brothers, the Hansens, the Hensels, the Hiltons, Masha and Dasha, Millie-Christine, Radica-Doodica, the Rodriguez twins, the Schappells, and the Toccis. The files also contained accounts of Lazarus Colloredo, Laloo, Betty Lou Williams, Frank Lentini, Myrtle Corbin, and others with parasitic twins. In addition to biographical information, articles in the files addressed separation and identity issues, with case studies of Lakeberg and Holton twins and articles by Stephen Jay Gould and Alice Dreger. There were interviews with famous pediatric surgeons, including Ben Carson and C. Everett Koop, and papers advancing the search for a cause for conjoined twinning and examining its occurrence and survival rates.

I finished consulting the museum files on the second day and spent some of my time observing the conjoined twin exhibits on display in the museum. These include wet specimens (thoracopagus fetal conjoined twins, dicephalic fetus with facial cleft, and a stillborn infant with opodidymus), dry preparations (including the cephalothoracopagus skeleton), and plaster casts (bicephalic infant and the ischiopagus tripus case). In addition, I enjoyed examining the objects

so closely connected to Chang and Eng Bunker, including their joined livers, the plaster cast of their torsos, and the chair in which they sat. Later that day, I was privileged to see the scrapbook containing the post-mortem photographs of the Bunkers and the sketches made at and after their autopsy by H. Faber.

By the afternoon of day two, I was in the library and grateful for the help of Historical Reference Librarian Christopher Stanwood, who helped me find a number of articles and treatises on conjoined twins in the eighteenth- and nineteenth-century medical literature. I was able to consult an often-referenced work on Ritta-Christina published in France in 1832. I found other cited articles in the *Archives of Pathology and Laboratory Medicine,* the *British Medical Journal,* the *Photographic Review of Medicine and Surgery,* and the *Transactions and Studies of the College of Physicians of Philadelphia.* I was particularly pleased to read from the original published papers the words of doctors like William Pancoast, since they are so often represented by isolated quotes in the conjoined twin literature. Other more recent source material that had been collected by Gretchen Worden in her files was from the *American Journal of the Medical Sciences, American Medicine, Archives of Otolaryngology, Developmental Biology, European Journal of Obstetrics, Gynecology and Reproductive Biology, Hippocrates, Journal of Pediatric Surgery, Literature and Medicine, Medical World News,* the *New York Times, Perspectives in Biology and Medicine,* the *Philadelphia Medical Times, Surgery, Gynecology & Obstetrics,* and *Teratology.* Included were elusive articles about the hearing loss and phrenological examination of Chang and Eng Bunker.

Day three found me back in the library, where I took notes about earlier and current medical terminology and classifications (autosite, terata anacatadidyma, diprosopus, omphalocele) and read specifics about the earliest separation of conjoined twins in Byzantium in the tenth century. Later I consulted with Gretchen Worden about several photographs I hope to reproduce in my book. I found my research trip to the Library of the College of Physicians of Philadelphia and the Mütter Museum most helpful in the preparation of my book. I was able to read a number of out-of-print books that I had been unable to locate, including *Very Special People* by Frederick Drimmer and *Conjoined Twins* by Daniel Bergsma. I learned the details about twins Lin and Win Htut, who were sparsely represented in my own files. I was able to consult other unique sources, including papers and doctoral dissertations by other researchers and a lengthy bibliography compiled by Sarah Mitchell. I gained a number of other references in

the clinical literature and literary allusions to conjoined twins. I also acquired contact information for surgeons, researchers, ethicists, foundations, Bunker descendants, and conjoined twins that I will put to good use in obtaining firsthand knowledge from them. I truly appreciate the opportunity that the Francis Clark Wood fellowship gave me and hope to come back to Philadelphia again to make use of its resources.

The Strange Case of Silas W. Mitchell: Writing and Injury in the Gilded Age

Michael Soller

Silas Weir Mitchell occupied a vital place in late nineteenth–century intellectual history, as scholars are discovering. His career bridged neurology and literature at a time when psychiatry became a leading figure in fiction, law, politics and social thought. My research explored the connections between Mitchell's work with Civil War soldiers and his Civil War novels, especially *In War Time* and *Westways*. He called himself an "M. D. in fiction" and incorporated insights from his wartime work on traumatic nervous injuries into his fiction. This is especially apparent in his medical realism and the pull of sympathy he experienced toward his fictional injured soldiers. "The mere literary M. D. is one who still adheres to & honours his profession & even relates the two things," Mitchell wrote to one medical journal editor. Yet on another level he found the twin careers incommensurable. In the same letter, he declined to write a medical article and referred hopefully to the "literary emancipation of the M. D."; in such stories as "The Case of George Dedlow" and "Autobiography of a Quack," Mitchell mocked the medical establishment and circumvented it, notably in the study of psychic phenomena, which he pursued throughout his life.

Mitchell's case notes (1863–4) and follow-up studies (1890s) from Turner's Lane Hospital bracket the doctor's medical career and help frame his literary career. They suggest that Mitchell's pioneering work in traumatic nervous injury was intertwined with a Civil War memorial project that recurred in his medical, literary, and public life. *Gunshot Wounds* (1864) and *Remote Examination of Injuries of Nerves* (1895), which Mitchell researched with his son, are two termini on a timeline that saw Mitchell's medical expertise pass to a new generation. Mitchell's first Civil War story, "The Case of George Dedlow" (1866), and his last, *Westways* (1913), overlapped yet also outlived the medical timeline, as Mitchell sought his "literary emancipation." In this reading J.K. Mitchell's medical inheritance freed his father to pursue the memorial work of his late literature and public life (letters reveal that in the last years of his life, S.W. Mitchell

was involved with discussions about a monument to Civil War surgeons). *Westways* was his last published work before his death in 1914, and its narrative of injury and recovery reflects the twin preoccupations of the doctor and writer. The issues of inheritance and public presence of memory are crucial to understanding not just Mitchell's life but also the careers of many Americans in the late nineteenth century.

A Hygienic Transformation: Zionist Public Health Programs and National Identity During the British Mandate Period in Palestine, 1918–1947

Sandy Sufian, Ph.D., MPH

This past academic year I spent time at the College of Physicians library searching for materials on the international state of knowledge on malaria in the first decades of the twentieth century. I need these materials to place my own study of malaria in Palestine (1920–1947) within a greater, global scientific context and to understand what collaborations and communications took place in the field of malariology during this time. To that end, I also searched for scientific articles published in esteemed medical journals that were specifically written by prominent Zionist malariologists like Israel Kligler, Gideon Mer and Zvi Saliternik. I will use these articles to (1) discuss what these scientists understood about malaria and its treatment at that time and (2) show that Zionist malariologists engaged with the international medical community on topics such as the transmission and best control of parasitic and infectious diseases.

My research proved quite successful. I found a plethora of materials at the College of Physicians library. I read articles in the *American Journal of Tropical Medicine, Proceedings of the American Society for Tropical Medicine* conferences throughout the 1920s, and the *Southern Medical Journal*. These articles discussed the effective use and dosage of quinine, the extant knowledge about the acquisition of partial immunity to malaria, and methods of diagnosis. They also dealt with urban/rural differences in malaria morbidity and prevention and the varying prevalence rates of malaria between children and adults, and "Negroes" and whites in the southern part of the U.S. This scholarship revealed what types of epidemiological and laboratory experiments were being conducted at the time in America, how they were conducted, and what conclusions were drawn. Such research was drawn from and utilized by Zionist malariologists in Palestine; in fact, having trained in the U.S. in public health

and medicine, many Jewish scientists in Palestine continued to heavily engage with their American counterparts while doing their anti-malarial work in the Holy Land. Reading these pieces exposed me to the works by which Zionist malariologists were influenced (i.e., the methods of Gorgas). In addition, one gets a sense when reading these articles of the exchange on malaria occurring between scientists in the colonies (West Africa, East Africa, India) of their findings.

I found a guidebook entitled *Malaria at Home and Abroad* by S.P. James, M.D., DPH that was intended for entomologists, medical administrators and medical officers dealing with malaria in the colonies. One gets a sense of the extant medical understanding about malaria at the time, as well as the social, economic and environmental factors thought to contribute to the spread of malaria. Most importantly, perhaps, I found the scientific articles written by Dr. Israel Kligler and J.M. Shapiro in *Transactions of the Royal Society of Tropical Medicine and Hygiene* that explicitly reveal what works they draw upon, what their view on quinine prophylaxis was, what experiments they conducted in Palestine, and what methods of control they recommended. It is important to have found articles written by these scholars in this publication, especially given its prestige at the time.

I also found a book written by Hilma Granqvist about birth and childhood in a Palestinian village during the 1920s and 1930s. This ethnography offered detailed commentary on medical traditions, morbidity, indigenous medical treatment, agricultural work, dress, and marital and family relations. It will be used in my book to further elucidate Palestinian Arab medical conceptions and practices, a topic that is highly under-researched due to lack of Arabic sources. I intend to also include findings from this manuscript in future articles on health issues in Palestine.

My time as a Wood Fellow proved quite fruitful and rewarding. I feel that my research at the College of Physicians has helped me rethink my two projects: malaria and nationalism in Palestine from 1920–1947 and public health programs (at large) and Zionism during the same period.

The College of Physicians of Philadelphia Financial Report FY2001

I. Commentary

The trend of improvement in the fiscal operations of the College that was evident in FY2000 continued into FY2001. Museum admissions revenues continue to grow impressively and increased by 40%. Revenues from the rental of the College's facilities increased by 26%. Grants that the College received from the Federal Government to support various aspects of program operations and improvements to infrastructure also contributed to the fiscal improvement in the operations of the College. Rigorous cost control was maintained in FY2001 through adherence to the annual budget.

Despite the substantial improvement in the fiscal operations of the College, total net assets only increased 3% due to a 14% decrease in the market value of the College Fund. Due to market conditions, the College Fund sustained unrealized losses exceeding $1.8 million in addition to a $1.7 million decrease in realized gains as compared to FY2000.

The following financial data is excerpted from the audited fiscal year 2001 financial statements prepared by the College's external auditors, Macdade Abbott, LLP.

II. Financial Data

Operating Statement

Revenues	
Membership Dues	$ 390,745
Contributions and Grants	1,606,615
Facility Rental and Parking Lot Lease	523,205
Endowment Proceeds	582,828
Services Provided	350,991
Total Revenues	$3,454,384

Expenditures	
Programs and Services	$ 977,784
Plant and Depreciation	583,046
Benefits and Payroll Taxes	205,895
Management, Accounting, Overhead & Development	765,248
Total Expenditures	$2,531,973

Balance Sheet

Assets	
Cash	$ 383,467
Accounts Receivable (net)	36,171
Contributions Receivable	1,465,231
Investments (market value)	9,751,985
Other Assets	66,190
Buildings, Furnishings & Equipment (net)	3,144,696
Total Assets	$14,847,740
Liabilities	
Accounts Payable	$ 114,310
Other Liabilities and Accruals	656,914
Total Liabilities	$ 771,224
Net Assets	
Unrestricted (mostly property)	3,915,351
Temporarily Restricted	3,296,206
Permanently Restricted	6,864,959
Total Net Assets	$14,076,516
Total Liabilities and Net Assets	$14,847,740

JOHN B. SAWYER, CMA, CFM
CHIEF FINANCIAL OFFICER

Fugitive Leaves, Tipped In

Charles B. Greifenstein, Editor

Throughout its various incarnations, *Fugitive Leaves* has been at its core devoted to describing the historical collections of the Library of the College of Physicians. The first issue was published in 1935 by W.B. McDaniel (1897–1975), Librarian of the College from 1933 to 1953 and Curator of the Historical Collections from 1953 to 1973. McDaniel edited two series of *Fugitive Leaves from the Library,* the first from 1935 to 1938, the second from 1956 to 1969.

Thomas Horrocks, the historical collections librarian from 1985 to 1997 who revived *Fugitive Leaves* in 1986, wrote a brief history of McDaniel's *Fugitive Leaves* for the first issue. It reads in part:

> An informal publication devoted to the rare book and manuscript collections of the College library, *Fugitive Leaves* included scholarly presentations of a diverse nature, such as comments on the 1512 Antwerp edition of Ketham's *Fasciculus medicinae,* a survey of the rich collection of student lecture notes in the College library, a translation of a fifteenth-century tract by Johannes Mercurius, and an index of the library's holdings of eighteenth-century medical theses. According to Whitfield J. Bell, McDaniel "knew, read and valued books." These qualities were clearly evident in each issue of *Fugitive Leaves.* Although not physically sophisticated (*Fugitive Leaves* was mimeographed on cheap paper), these scores of bibliographical and historical notes contained scholarly essays which introduced Fellows and friends to the rich historical resources of the College library. Through *Fugitive Leaves,* McDaniel cultivated a deep sense of pride in our collections on the part of the Fellows and friends, even those who had little interest or use for these resources.[1]

McDaniel named his publication "Fugitive Leaves," a term referring to individual pieces of paper that are not attached to other leaves—

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[1][Thomas Horrocks], "The Return of Fugitive Leaves," *Fugitive Leaves from the Historical Collections,* Third series, Vol. 1, no. 1, p. 1.

a lone block print, for instance. "Fugitive" also implies "ephemeral" or "wandering." The name is wonderfully suggestive but also ironic. McDaniel's work as a whole is connected to the great body of medical history produced in the twentieth century and much of it will endure, if for no other reason than McDaniel was often the first to examine in detail a particular document or book in the Library's collection.

In the series he edited, Horrocks continued McDaniel's tradition of scholarship based on the Library's collections, but also opened up the newsletter to a variety of scholars and improved its appearance. Issued semi-annually, *Fugitive Leaves from the Historical Collections* was printed by a professional printer on quality stock. Although there was some variation, a typical issue of six (later eight) pages had two articles relating to the collections, written by Library staff, project archivists, scholars, and others. Articles appeared on such diverse topics as the Medical Trade Ephemera collection, the papers of Francis Clark Wood, genealogical sources in the Library, the popular health journal *Hygeia,* and an Ernest Hemingway letter in a College collection.

Budget constraints and personnel changes necessitated the suspension of *Fugitive Leaves* in 1996. Since his appointment as College Librarian and Wood Institute Director in 2001, Ed Morman has recognized the importance of publicizing the vast historical resources of the Library, and he came up with an alternative way of producing *Fugitive Leaves*.

This issue of *Transactions & Studies* marks the debut of *Fugitive Leaves Tipped In.* In book parlance "tipped in" refers to separately printed pages that are pasted into a book, such as errata pages or plates. Although it is hoped that *Fugitive Leaves* will one day appear again as a separate publication, in the meantime it will be "tipped in" *Transactions & Studies. Fugitive Leaves Tipped In* will carry on in the tradition of W.B. McDaniel and Tom Horrocks, introducing the next generation to the rich holdings of the Library of the College of Physicians.

The Papers of Edward O. Shakespeare

Charles B. Greifenstein

In early 2001, the College of Physicians was fortunate to receive a collection of the papers of Dr. Edward O. Shakespeare (1846–1900) from his grandson Edward O. Shakespeare of Philadelphia. The collection contains material pertinent to many aspects of the older Shakespeare's varied career, which spanned the last third of the 19th century and which exemplifies the development of bacteriology and public health into the professions we know today.

E.O. Shakespeare was born in New Castle County, Delaware. He graduated from Dickinson College in 1867 and received his M.D. from the Medical Department of the University of Pennsylvania in 1869. Throughout his life Shakespeare took an interest in genealogy and traced his ancestry to William Shakespeare's brother.

A drawing of Shakespeare's first office—in Dover, Delaware—is found in the collection. He began as an ophthalmologist and gained a reputation by inventing a new type of ophthalmoscope and by being among the first in the United States to experiment with cocaine as a therapeutic treatment and anesthetic agent for the eye. Within a few years, however, Shakespeare began to cultivate his interests in the emerging fields of pathology, bacteriology, and public health.

By 1872, Shakespeare was performing autopsies at Philadelphia General Hospital (PGH). An excellent microscopist, draftsman, and photographer, he became the hospital's pathologist in 1882 and its staff bacteriologist in 1889. A trip to Germany in 1883 to meet Robert Koch, discoverer of the tuberculosis bacillus in 1882 and the cholera bacillus in 1883, turned Shakespeare into a strong proponent of the germ theory. (The collection, incidentally, has two notes from Koch to Shakespeare). Shakespeare thus became an early and important figure in establishing the role investigative medicine could play in hospitals and medical schools.

It was as a consultant to government that Shakespeare made several notable contributions to medicine. When an epidemic of typhoid broke out in Plymouth, Pennsylvania, in 1885, Plymouth authorities asked Mayor William Smith of Philadelphia to send someone to investigate. Smith sent Shakespeare and Morris Stroud French. (The College's collection has a letter from Mayor William

Smith of Philadelphia thanking Shakespeare for agreeing to investigate the outbreak and his "commission" as a special employee). Shakespeare's careful research found the cause of the outbreak (the excreta from a single case occurring in January that did not enter the water supply until the spring snowmelt) and brought him national attention.

In 1885, federal authorities, concerned that the United States might be in danger, appointed Shakespeare special commissioner to investigate a cholera epidemic in Spain and Italy. These recently acquired papers contain a number of interesting documents covering Shakespeare's investigations: appointment letters and letters of introduction signed by among others Secretary of State Thomas Bayard; a diary of part of Shakespeare's trip to Europe; and a copy of a survey in Spanish that asks local doctors to describe cholera in their area. United States consulates were used to collect information gathered through the questionnaires. The collection contains letters from the consulates reporting on the progress of their information gathering.

Shakespeare's research resulted in a thousand-page work, published in 1890, devoted not just to the current cholera outbreak but also covering the history of cholera in Europe and Asia. Congress was so impressed that it ordered 5,000 extra copies to be printed. The American Medical Association hailed it as a "great work" and Shakespeare was regarded as the leading expert on cholera. He served as port physician in Philadelphia during the cholera scare of 1892 because of this background.

Impressive report or no, it wasn't until 1895 that the federal government considered its financial account with Shakespeare closed. Documents in the collection note the disallowance of certain expenses claimed by Shakespeare. He still had to deal with the clerks five years after finishing his work, an example of either bean-counting bureaucracy or careful attention to the public purse, depending upon your point of view.

In 1888 Shakespeare was asked to head a commission to help solve a controversy in the emerging field of veterinary medicine. Daniel Elmer Salmon (1850–1914) and Frank Seaver Billings (1844–1912) were clashing over the nature of swine plague, also called hog cholera. Salmon, head of the Bureau of Animal Industry (BAI), believed that hog cholera and swine plague were different diseases. Billings, head of the Patho-Biological Laboratory at the University of Nebraska, claimed that they were the same disease and also

claimed that he could produce an inoculation for it. The debate was contentious and personal, in large part due to Billings' combative nature, which he exercised with a prolific pen.

There was much confusion about the nature of each disease and its causative agent. The initial report of the commission did not quite clear up the confusion, but subsequent experiments by Shakespeare proved the inefficacy of Billings' immunization. Later experiments showed that true hog cholera was a viral disease; BAI scientists developed an antiserum (1903). Salmon's second "swine plague" was actually hemorrhagic septicemia, a disease known in Germany as *schweineseuche* (German for swine plague). And what was known in the 1880s as hog cholera is now called paratyphoid infection or Salmonellosis (named after the *salmonella* bacteria that itself was named after Salmon). Thus, three diseases were demonstrated to exist that were referred to by the two names.[2]

Salmon today is remembered as a selfless public servant and dedicated scientist who did great work despite having to contend with industry pressure, bureaucratic headaches, and attacks by Billings. Billings was intelligent and hardworking, but on the whole not the careful scientist Salmon was and seems to have been unbalanced. Although a comprehensive study of the Salmon-Billings feud and the role of commissions in early scientific disputes remains to be done, and there is not a lot of correspondence in the College's collection about the controversy, we can report here that Salmon's correspondence is polite while Billings' is full of attacks on Salmon, showing that the general characterizations of Billings and Salmon are true.

To cite one example from each man, at the time the commission is doing its report, Billings writes to Shakespeare (January 23, 1889) that in response to a report by Salmon, and in defense of Billings' inoculation,

> I shall print my Review on Salmon's #1—on acct of the necessary correction—at my own expense, but it will be a holy terror—I will show that skunk up as never mortal was—The inoculations are still winning—I have every hog exposed now in all places.

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[2]B.W. Bierer, *A Short History of Veterinary Medicine in America* [East Lansing, MI]: Michigan State UP, 1955, 68–71; "Salmon, Daniel Elmer," *American National Biography,* New York and Oxford: Oxford UP, 1999, vol. 19, 214–15.

In contrast, Salmon's letters are business-like and detached:

U.S. Department of Agriculture
Bureau of Animal Industry
Washington, D.C., Nov. 13th, 1888

Dr. E.O. Shakespeare,
Blockley Hospital,
Philadelphia, Pa.

Dear Doctor:

Dr. George Roberts of the University of Nebraska has asked to be allowed to come to Washington to lay the results of his investigations of swine diseases in Nebraska before the Department. I understand that he holds to Dr. Billings' views. I think we will accept his offer, and it has occurred to me that there might be differences of opinion as to what he has demonstrated. I shall ask him to make cultures and inoculation experiments here. Of course there might be a difference of opinion as to what species of germ he is working with even after cultures were made. To settle these points as we go along, I should like to have some recognized authority present who could settle such questions. I have thought of asking you and someone else to be present on the days when these contested points were decided and act with Dr. Smith as a board to definitely determine such points. I do not anticipate that it would take more than 2 or 3 days to accomplish this. Of course the Department would make compensation. Would you act on such a board and help us to get these questions settled, which are being so vigorously debated in the West?

Yours respectfully,
D.E. Salmon,
Chief of Bureau

Salmon was a savvy bureaucrat and not a passive recipient of Billings' attacks and the contrast between Salmon's and Billings' letters is marked.

As an important public health official who had demonstrated his worth to government, Shakespeare was selected to head the U.S. delegation to the international sanitary conference in Paris in 1894. One concern to the U.S. was the problem of immigration and disease. In the collection is a draft report to Pres. Grover Cleveland that details the discussions about immigration. Also, the collection con-

tains eight reports from U.S. consulates and European steamship lines pertinent to port and shipboard sanitary procedures. When Shakespeare returned to the United States, Cleveland was anxious to hear about the conference. A note from Cleveland, one of three in the collection, invites Shakespeare to the White House.

Shakespeare's last government service was his final professional activity. He had had long association with the military, serving as an officer in the Pennsylvania National Guard. In fact, in 1883 he had gone to England as a member of a National Guard Rifle Team; in his papers are invitations to dinners and other events, including one given by the Prince of Wales.

When the Spanish-American War began, Shakespeare went on active duty. Together with Walter Reed (1851–1902) and Victor Vaughan (1851–1929), Shakespeare investigated the high incidence of typhoid fever in the army camps. The commission's conclusions discounted the results of clinical examinations when they were contradicted by bacteriological findings and recommended that proper hygiene and cleanliness be implemented in the camps. The commission's final report was mostly written by Vaughan (it was not published until 1904), but drafts of earlier reports in the College's collection could shed light on Shakespeare's contributions to the commission.

Edward O. Shakespeare died suddenly of heart disease at 54. This native of the Delaware Valley, elected a Fellow of the College of Physicians in 1877, had done much to establish bacteriology in the United States and made pioneering public health contributions. His papers are a fine addition to the College's Library.

Anthropodermic Book-Bindings

Laura Ann Guelle

The College Library owns at least five anthropodermic book-bindings, the polite way to refer to books bound in human leather. Some of these special bindings in the rare book collection are known to the international book community. Although the published literature about anthropodermic book-bindings has cited a few of the College's books, the information given is frequently inaccurate and/or incomplete.[1] In particular, the details about the human leather bindings which the College purchased with the library of physician and bibliophile J. Stockton Hough (1845–1900), have never been fully documented. The purpose of this article is therefore (1) to verify the known anthropodermic bindings collected by Hough, and (2) to point out the historical and medical significance of these specific volumes. The description of these bindings and the recording of the explanatory inscriptions inside them will considerably enhance the public record of the Library's cache of these unusual volumes.

Human Leather Book-bindings in the J. Stockton Hough Library

In 1901, the College Library acquired through the generous donations of Fellows S. Weir Mitchell, J.K. Mitchell, and George Fales Baker, the 3,247-volume collection of J. Stockton-Hough.[2] His

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[1]The worst example is an article entitled "Curl Up On a Good Book" in *The Dolphin,* No. 4, Fall (1940), Pt. 1, 90–92, which mentions that in 1903, Dr. F. Stockton Hough was assembling a collection of anthropodermic bindings. F. Stockton Hough is really John Stockton Hough and he most certainly was not posthumously collecting books three years after his death in 1900. Fortunately, Lawrence S. Thompson already set the public record straight in his *Religatum de Pelle Humana,* Lexington, KY: University of Kentucky, [1949?]. However, even Thompson's work only mentions two of the four Hough books owned by the College at the time of his article.

[2]For a biography of Hough and additional details about the Stockton-Hough Collection, see Fred B. Rogers and Thomas A. Horrocks. "Dr. John Stockton Hough: Medical Bibliophile and Bibliographer" in *Transactions & Studies of the College of Physicians of Philadelphia,* Ser. 5, Vol. 11, No. 4 (1989), 355–361.

library contained at least five books bound in human leather (one of which was subsequently sold by the College), which make up the bulk of the anthropodermic bindings owned by the College. By Hough's own admission, the leather was personally tanned by him.[3] The known volumes bound in human leather collected by Hough are as follows:

1. Barles, Louis, 17th cent. Les nouvelles decouvertes sur toutes les parties principales de l'homme, et de la femme. Lyons: Esprit Vitalis, 1680. This item is bound in light brown quarter human skin over red varnished paper boards. The front flyleaf is inscribed by J. Stockton Hough: "Bound Trenton June 11th 1887—Leather tanned skin of Mary L.—tanned 1869. See further in Couper on impregnate." [See Couper entry below.]
2. Bourgeois, Louise, 1563–1636. Recueil des secrets, auquel sont contenues ses plus rares experiences pour diverses maladies, principalement des femmes, avec leurs embellishments. Paris: Mondiere, 1601. Like the preceding volume, this work is bound in light brown quarter human skin over red varnished paper boards. Also inscribed on the front flyleaf in J. Stockton Hough's hand is "Bound in Trenton by Mr. Jack, June 11, 1887. Leather tanned from skin of Mary L____. Tanned in Philada. 1869."
3. Couper, Robert, 1750–1818. Speculations on the mode and appearances of impregnation in the human female. Edinburgh: Elliot, 1789. This book is bound in light brown quarter human skin over black cloth boards. Inscribed on the front flyleaf is "The leather with which this book is bound was tanned from the skin of the thighe of Mary L_____ affected with encysted trichinae who died of consumption in the Philada. Hospital, 1869. Tanned in a 'Pot-de-Chambre' by J. S-H, at the Philada. Hospital Jany. 1869. Book bound in Trenton N.J. March 1887. Mary L____ was irish widow aged 28 yrs.—died Jany. 16 1869. John Stockton-Hough April 2nd 1887."
4. Drelincurtinus, Carolus, 1633–1697. De conceptione adversaria. Ed. altera. Lugdunium Batavorum: Boutesteyn, 1686. This work is bound in tattooed light brown quarter human skin over black cloth boards. Inscribed on the front flyleaf is "Bound in

[3]Library folklore and the discreditable *Dolphin* article claim that one more volume existed, but no record of this book's existence can be located in the Library's collection.

Trenton N.J. March 1887, with tattooed skin from around the wrist of a man who died in the Philada. Hospital 1869—Tanned by J.S-H—1869—This bit of leather never boiled or curried. John Stockton-Hough." Although the ink from the tattoo has greatly faded over the last 130 years, a faint outline of a band can be seen running parallel to the spine of the book.

5. Bibliothèque Nationale. Catalogue des sciences médicales. 1857–1873. Volumes 1 and 2 are bound together in light brown quarter human skin over green cloth boards. The front flyleaf is inscribed in Hough's hand "Bound with skin from the back—tanned June 1887. Bound, Jan. 1888." [This item was sold by the College in 1901.]

Historical Medical Significance of the Bindings

Tipped into the front of the Couper book mentioned above is page 565 of the *American Journal of the Medical Sciences,* vol. 57 (1869). Here one finds the published autopsy report by Dr. J. Stockton Hough, Resident Physician, Philadelphia Hospital (Blockley) of one Mrs. Mary L., aged 28, who officially died at Blockley from consumption on January 16, 1869. While conducting a seemingly routine autopsy, Hough discovered the first case of encysted trichinosis found in Philadelphia. In his report, Hough emphasized that during her hospital stay, Mary's family repeatedly brought her large quantities of pork sausage to eat! What Hough did not publish was that he saved a portion of her thigh skin for posterity and tanned it himself in a chamber pot in the basement of the hospital. Almost twenty years later he used the leather to bind the three aforementioned books on women's health issues.

If this leaf were not present in the Couper book, it is doubtful that anyone would recognize the historical and medical significance of its binding, let alone the significance of the other two books bound from the same skin. Moreover, Dr. Hough's reputation as a bibliophile far overshadowed his reputation as a career family physician in private practice. His significant, albeit accidental, contribution to the public health effort to increase awareness about the risks associated with eating improperly cooked pork products would have been forgotten by history, were it not for this fugitive leaf. Its presence serves to remind us that Dr. Hough was not just a renowned book collector, but a dedicated physician as well.

A Peculiar Fad of the 19th Century?

Lest one think that Dr. Hough was some ghoulish eccentric, it should be pointed out that it was not that uncommon for physicians and surgeons to tan human skin in the late 19th century. The Mütter Museum owns many examples of human leather tanned by various physicians and surgeons. One item is the 36-inch-long tanned skin of an entire leg of a man, which is inscribed "Human skin converted to leather, Sept. 1863." The handwriting is that of Fellow Joseph Leidy, M.D. (1823–1891), the foremost anatomist of his time and Professor of Anatomy at the University of Pennsylvania for almost forty years.

In fact, Leidy's personal copy of his seminal work, *A Treatise on Human Anatomy* (Philadelphia: J.B. Lippincott, 1861), was bound for him in human leather, which he notes on the front flyleaf is "from a soldier who died during the great southern rebellion." It was presented to the Library by his widow, Helen Carter Leidy, in 1932 and described by her as one of her husband's "cherished possessions." Whether Leidy tanned the leather personally is not known, though it was certainly possible. During the Civil War, Leidy served as Army Surgeon at Satterlee Hospital. Many of his surgical cases and autopsy reports are recorded in the official *Medical and Surgical History of the War of the Rebellion* (Washington, 1875–1883). The leather most likely came from one of the soldiers he attended at Satterlee.

It should be noted that in the late 19th century human leather was used for practical purposes other than book-binding by those in the medical profession. An undated newspaper clipping from the St. Louis Post-Dispatch pasted into one of Hough's books describes how physicians and surgeons in New York City would commission leather goods from personally tanned human skin. "With them, however, it is not altogether a fad, but a matter of business. Many physicians use bags made of human skin to hold their more delicate instruments, and say it is the best material from which such an article can be made."[4] The Mütter Museum also owns a wallet made from human leather by an anonymous demonstrator at the Univer-

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[4]"Human Skin Is Tanned: It Is Made Up Into Purses and Spectacles and Card Cases," New York Letter to the St. Louis Post-Dispatch, circa 1888. Clipping pasted into the Bibliothèque Nationale's *Catalogue des Sciences Médicales*, 1857–1873.

sity of Pennsylvania, and presented to his mentor, Fellow W.W. Keen, M.D. (1837–1932), who donated it to the Museum in 1906.

Controversial Commemorations

The practice of tanning human skin for use in leather book-bindings is centuries old. Long before the Nazis committed their atrocities during World War II, Mayans bound their religious tomes in leather made from the victims of human sacrifices. There are many examples of early modern European specimens in libraries around the world. The historical record is littered with criminals, political prisoners, slaves, and anonymous lower-class patients such as Mary L., who were memorialized in such a way. The rationales and motivations are too numerous and complex to discuss here.[5]

Despite the many infamous reasons for the practice, not everyone who commissioned book-bindings in human leather is deserving of condemnation. Some of these bindings could be considered tributes in the best possible sense of the word. The anthropodermic bindings in the Library's collection bear witness to the fact that not all human-skin bindings were the consequence of inhumane actions. The tanning work and commission of human leather book-bindings by Drs. Hough and Leidy literally preserved the memory of those who helped them further anatomical and medical research. Perhaps if more details of anthropodermic book-bindings in medical history collections were documented publicly, other contributions to medical history would also come to light.

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[5]A comprehensive summary of the controversy, folklore, and practice of tanning human skin for display and practical use may be found in Thompson's *Religatum*. Many examples of anthropodermic bindings in American and European libraries are given.

George Parott Rosemond, M.D., FACS, (1910–2002)

R. Robert Tyson

George Parott Rosemond, M.D., FACS, was born August 23, 1910, and died May 12, 2002.

He was a master surgeon and above all a fine person. He was involved in a wide variety of activities centered around the medical care of people, their education and the education of their caregivers. One of his hobbies was bird watching. George also had a mynah bird in his home that he taught to speak, sometimes to his embarrassment.

Dr. Rosemond was a southerner from North Carolina, a kind person, tall and handsome. He graduated from the University of North Carolina, and took his medical degree at Temple University. His surgical education and experience was also at Temple under the auspices of Wayne Babcock, M.D., and W. Emory Bernett, M.D. George then joined Dr. Bernett in the practice of surgery and the instruction of medical students and surgical residents. I am sure much of his experience at the medical school and hospital was guided by Dean William Parkinson, M.D.

Dr. Rosemond received many honors from the medical community and lay groups. These included being elected the 45th President of the College of Physicians of Philadelphia. He was a leader of the presentation of the many assets of the College to the community at large, including the history and the library, stressing its unique value to the world.

Some of the important awards Dr. Rosemond received were:

- The Stritmatter award from the Philadelphia County Medical Society
- President of the Philadelphia Academy of Surgery
- A life member of the American College of Surgeons
- Member of the American Surgical Society

- Recipient of the St. Francis Award
- Award of Kain Moses Cancer research of the American Cancer Society

Dr. Rosemond and his wife, Jean, lived near the Philadelphia Country Club with their daughter, Linda Killingsworth. Linda was very caring of her father during his last years as he suffered from Alzheimer's disease. Linda was a source of information about her father's condition for his many friends and admirers. He is survived by his daughter, a sister and two grandchildren.

Dr. Rosemond was my teacher, advisor, colleague, inspiration, supporter and friend. He was a major reason I chose to complete my surgical education at Temple. His influence resulted in my personal achievements at Temple and in the medical world.

Howard A. Kelly's Development as an Academician: Some Insights from His Letters to Robert P. Harris*

Lawrence D. Longo

Abstract

Howard Atwood Kelly (1858–1943), Professor and Gynecologist in Chief at the Johns Hopkins School of Medicine, is widely known as an innovator in operative gynecology, urology, and abdominal surgery. He was also a first-rate naturalist and bibliographer. Less is known, however, about his formative years as a young surgeon in Philadelphia. During a four-month period, from May to September 1886, while on a trip to Europe, Kelly wrote his senior colleague and friend Robert Patterson Harris (1822–1899) almost three dozen letters. These letters trace the development of Kelly's ideas as he visited a number of medical luminaries in the major medical centers of Germany, England, Scotland, and France. Overall, the letters give considerable insight into the development of Kelly as a young physician (age 28), inspired by what he saw in the German *Frauenkliniks* to build a program of excellence in the treatment of diseases of women in America. In addition, the letters help to illustrate the role Harris played in the development of this icon of contemporary medicine, who, with others, worked to place the Johns Hopkins School of Medicine at the forefront of medical education and research in this country and the world.

*Presented at a meeting of the American Osler Society, Charleston, SC, April 18, 2001.

Introduction

Howard Atwood Kelly (1858–1943), Professor and Gynecologist-in-Chief at the Johns Hopkins School of Medicine, is widely known as an innovator in gynecological surgery, abdominal surgery, and urology, in addition to his contributions to natural history and bibliography.[1–12] With the professor of medicine William Osler (1849–1919), the pathologist and dean of the school William Henry Welch (1850–1934), and the surgeon William Stewart Halstead (1852–1922), Kelly was one of the initial faculty "Big Four"[5] of the Johns Hopkins Medical School. Much less has been written, however, about Kelly's formative years as a young surgeon in Philadelphia.[13]

Over a four-month period, from May to September 1886, during which time he visited some of the leading gynecologic surgeons in Europe, Howard A. Kelly (Figure 1) wrote his friend, Robert P. Harris (1822–1899) of Philadelphia (Figure 2) almost three dozen letters. Overall, they attest to the close association between Harris

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[1]P.M. Allen and T.K. Setze. Howard Atwood Kelly (1858–1943): His life and his enduring legacy. *South. Med. J.* 84:361–368, 1991.
[2]A.E. Bent. Howard Atwood Kelly (1858–1943). *Int. Urogynecol. J.* 7:48–61, 1996.
[3]G.W. Corner. Howard Atwood Kelly (1858–1943) as a medical historian. *Bull. Hist. Med.* 14:191–200, 1943.
[4]T.S. Cullen. Dr. Howard A. Kelly. Professor of gynecology in the Johns Hopkins University and gynecologist-in-chief to the Johns Hopkins Hospital. *Bull. Johns Hopkins Hosp.* 30:287–293, 1919.
[5]T.W. Cullen. Dr. Howard Atwood Kelly. The last of the Johns Hopkins Hospital "Big Four." *The Johns Hopkins Alumni Magazine* 31:1–16, 1943.
[6]H. Cushing. *The Life of Sir William Osler.* 2 vols. Oxford, England: The Clarendon Press, 1925, Vol. 1, pp. 316 ff.
[7]A.W. Davis. *Dr. Kelly of Hopkins. Surgeon, Scientist, Christian.* Baltimore: Johns Hopkins, 1959.
[8]W.E. Goodwin. William Osler and Howard A. Kelly. "Physicians, medical historians, friends." As revealed by nineteen letters from Osler to Kelly. *Bull. Hist. Med.* 20:611–652, 1946.
[9]A.M. Harvey. Pioneers in urology: James R. Brown, Howard A. Kelly. *John Hopkins Med. J. Suppl.* 134:291–302, 1976.
[10]E.F. Nation. Howard Atwood Kelly (1858–1943). Urologist. *J. Pelvic Surg.* 3:71–74, 1997.
[11]D. Schultheiss, D. and U. Jonas. Max Brödel (1870–1941) and Howard A. Kelly (1858–1943)—urogynecology and the birth of modern medical illustration. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 86:113–115, 1999.
[12]R.W. Te Linde. Howard Atwood Kelly. Presidential address. *Trans. Am. Gynec. Soc.* 77:1–9, 1954.
[13]*Loc. cit.* note 7. p. 41 ff. Gives perhaps the best account of the Kensington years.

Figure 1 Howard Atwood Kelly, in 1889, age 31, at the time he assumed professorship at the Johns Hopkins Hospital. (From the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

and Kelly, and the esteem in which Kelly held his more senior colleague. At this time, Harris was a leader in Philadelphia obstetrics, well known for his work in assiduously applying the "statistical method" to cases of cesarean section, and in educating physicians on the steps necessary to lower maternal and fetal mortality in cases of obstructed labor (operate early, avoid craniotomy, embryotomy, and other destructive operations on the fetus, use careful technique, close the uterine incision with sutures, and so forth) (for instance,

Figure 2 Robert Patterson Harris, probably taken in 1889, age 67, when he was elected to Honorary Membership in the American Gynecological Society. (From the American Gynecological Society Album of Fellows, 1918)

see note 14). In 1881, Harris presented to the College of Physicians an autographed manuscript of all the cesareans performed in the United States to that date.[15]

The circumstances by which Kelly and Harris came to be such intimate friends is not entirely clear. In 1886, when these letters were

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[14]R.P. Harris. Special statistics of the Cesarean operation in the United States, showing the successes and failure in each state. One hundred and twenty operations with fifty recoveries; their results compared with those of craniotomy, oöphoro-hysterectomy, and laparo-elytrotomy. *Am. J. Obstet. Dis. Women Child.* 14:341–361, 1881.
[15]H.A. Kelly. Harris, Robert Patterson (1822–1899). In: *American Medical Biographies.* H.A. Kelly and W.L. Burrage (eds.) Baltimore: Norman, Remington Co., 1920, pp. 496–497.

written, Kelly was 28 and Harris 64 years of age. Both were graduates of the University of Pennsylvania and Fellows of the College of Physicians. Undoubtedly, they got to know one another at meetings of the Philadelphia Obstetrical Society, which in 1868 Harris had helped to found, and at which Society both presented a number of papers and contributed to the discussions.[16] Harris assisted Kelly on at least several of the cesarean sections and other surgeries that the latter performed.[17,18] In addition, both Harris and Kelly were deeply religious Christians. A Scottish Presbyterian, for a decade beginning in 1872 Harris served as physician to Philadelphia's Franklin Reformatory Home for Inebriates.[19] A pillar of the Methodist Episcopal Church, in later years Kelly joined with the Anti-Saloon League to crusade against prostitution, and for prohibition.[20]

The letters trace the development of Kelly's ideas as he visited the major medical centers of Germany, England, Scotland, and France. During this trip, Kelly met a number of medical luminaries in Europe, and saw them operate and manage their patients. Overall, the letters give considerable insight into the development of Kelly as a young physician, who, inspired by what he saw in the German *Frauenkliniks,* returned to Philadelphia to develop a program of excellence in the treatment of the diseases of women. Later, following his move to Baltimore, he worked with others to place the Johns Hopkins School of Medicine at the forefront of medical education and research in this country and the world.

Briefly, Kelly was born February 20, 1858, in Camden, New Jersey. During his youth, Kelly's mother, the daughter of an Episcopal clergyman, instilled in him a love of the Bible and the natural sciences. He graduated from the University of Pennsylvania with an A.B. in 1877. Originally intending to become a naturalist, his father persuaded him to study medicine so that he would have a more secure income. In 1882, he graduated from the University of

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[16]L.D. Longo. Cesarean Section Mortality and Its Decline from 1880 Onward: Robert Patterson Harris (1822–1899) and the "Statistical Method." *Bull. Hist. Med.* (Submitted).

[17]H.A. Kelly. A consideration of three successful cesarean sections in Philadelphia. *Am. J. Obstet. Dis. Women Child.* 23:225–246, 1890.

[18]H.A. Kelly. Gonorrhoeal tubo-ovarian abscess—right side: Laparotomy; removal of Fallopian tube an ovary; recovery. *Med. News (Phila.)* 49:205–207, 1886.

[19]R.P. Harris. *Annual Report of the Franklin Reformatory Home for Inebriates of Philadelphia . . . For the year ending April 1st, 1873.* Philadelphia: King & Baird, 1873, pp. 21–26.

[20]*Loc. cit.* note 7. p. 152 ff.

Pennsylvania School of Medicine. Kelly then spent sixteen months as resident physician at the Episcopal Hospital in Kensington, a large mill district of north Philadelphia with many poor. Following that, he established a two-room "hospital" in Kensington.

Bound for England

In mid-May 1886, Kelly embarked for England. In the first of these letters, written aboard the steamer "British King" bound for Liverpool, Kelly sought Harris's editorial assistance for a report on tubo-ovarian abscess.[21]

> I write a last word to go back by the pilot. I sat up last night until 1:30 to finish that paper. Will you be kind enough to change any form of expression you may think advisable & leave out anything which may seem superfluous. I very much fear it is dry, in the shape I have put it. Won't you please add comments to it. You have noticed some important points which ought to be recorded with it. (Kelly HA. 19 May 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then discussed having pictures accompany the publication, and whether Dr. I. Minis Hays (1847–1925), who succeeded his father Isaac Hays (1796–1879) as editor of both *Medical News* and the *American Journal of Medical Sciences,* would accept the paper. "But that is as *you* think best. . . . ," he continued (Kelly HA. 19 May 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions). The former journal, a weekly, included Harris on its board of editors, and Harris prepared abstracts of the European literature for the latter journal.

Several days before landing in Liverpool, Kelly wrote of some of his experiences aboard ship.

> I now fully divine the reason why you shook your head and laughed when I urged you to visit Europe this summer. I think ten days at sea are enough to cure the fancies of the boldest landsman, and set him speculating on the future possibilities of electricity as a locomotor.

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[21] *Loc. cit.* note 17.

> Our company has been small and very pleasant, and the service of the best, but after all when you are one second climbing up a mountainous wave and the next plunging madly down, and then lying on one side, and before you have time to begin to analyze your sensations, rolling with a sickening vacuity (abhorred alike by nature and the brain) to the other, your condition may best be described as woe-begone. I have not been actually sea sick, but I am good for no work. We are now within a day and a half of Queenstown [Ireland] and are buoyed up by hope of seeing some other green than the sea-green of the Atlantic.
>
> The pleasantest days on ship board have been Sunday, when we held a very delightful service in the Steerage where we found a body of about twenty earnest Christians, and again on Wed. aft. when we spent an hour with them in prayer and reading the Scripture and singing.
>
> I have written an article on the genu-pectoral position and another on "The transplantation of the peritoneum." (Kelly HA. 28 May 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In operations for pelvic tumors, Kelly then wrote of his idea of stripping pieces of peritoneum from the surface of the neoplasm and tacking them down in the abdomen covering the denuded area, or to persistently bleeding points which required gentle pressure for control. He also noted, "An old college chum is on board and we are reading German together every day much to our mutual edification." (Kelly HA. 28 May 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

England

Shortly before his departure, on May 6, 1886, Kelly had presented a paper "Asepsis not Antisepsis. A plea for principles not paraphernalia in laparotomy" to the Obstetrical Society of Philadelphia.[22] In

[22]H.A. Kelly. Asepsis not antisepsis. A plea for principles not paraphernalia in laparotomy. *Maryland Med. J.* 15:110–115, 1886. Also published in *N.Y. Med. J.* 43:672–674, 1886.

his presentation, in which Kelly outlined problems with carbolic acid poisoning and mercuric bichloride toxicity, he quoted a letter he had received from Robert Lawson Tait (1845–1899), a leading British surgeon in the relatively new field of operative gynecology, who in March 1883 had reported performing the first successful surgery for ruptured ectopic pregnancy.[23] Tait had stated, "I still use tap water and nothing else; it is never boiled; my instruments are prepared by being washed in soap and water merely."[24] In Birmingham, Kelly first visited Tait, who had written Harris that he looked forward to Kelly's visit (Tait RL. 10 April 1886 [Letter to R.P. Harris]. In the private collection of Lawrence D. Longo). Following his visit, Kelly wrote

> I arrived . . . last night and this morn. called on Mr. . . . Tait. I will write you a short account of this visit and speak with a freedom which I would not under any consideration use before anyone else. So *entre nous* [between us].
>
> Birmingham is a dirty place, and I sallied forth to find Mr. Tait, No. 7 Crescent Place. I left the more pleasing part of the town, & wound around forlorn old tenements, past some iron mills, up to the Crescent, an ancient row of tumble down houses looking out over dirt heaps and iron scraps. I kept saying to myself, "Surely there is something wrong, it can't be *The* Tait who lives here", and when I found his Hospital, an old manor house refitted and adapted—I was . . . much surprised. . . . On being admitted I was asked "was I invited to the operation?", to which I promptly replied "Yes, if there was one". The house was furnished (his residence & hospital are one) with all manner of bric-a-brac, and gave the impression of rather an elaborate attempt at Elegance. . . . Tait received me in his office, where the first thing that caught my eye was his examining table, a low upholstered box, full of drawers, on which he could not use the Simm's [sic] position satisfactorily if he would. . . .
>
> The reception was by no means cordial & I felt oppressed. The thought went through my mind, "O, if Dr. Harris hadn't written that last letter". While we were yet a *long* way off from

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[23]R.L. Tait. Five cases of extra-uterine pregnancy operated upon at the time of rupture. *Brit. Med. J.* 1:1250–1251, 1884.
[24]*Loc. cit.* note 22, p. 111.

the operating room, Tait held up a warning finger & said "Shhh!!" and in solemn silence we climbed the stairs & entered his operating room, where a woman was etherized & strapped to the table ready for the operation. Tait stood on her right and one assistant opposite, who did little else than sponge. There were 5 doctors & 4 nurses in the room.

The tumor weighed about 18 lbs., had a small parietal adhesion anteriorly. It was quickly emptied and cut away. He cleansed the peritoneum, but took no *great* care. He closed the incision with silk, and to my great surprise put in a drainage tube! The sponges were counted and one found missing. He was much irritated over the counting, and after a vain search in pans & basins opened up the wound again (removing dressings & cutting stitches) & fished the sponge out of Douglass' cul de sac.

He next removed ovaries & tubes from a young woman which we would have pronounced *normal*. In this case just as he was about to close up the wound a *profuse* arterial hemorrhage gushed up, when he passed in his two big fat fingers, and found that his Staffordshire knot had slipped, & he was obliged to tie again. The toilet & closure of the wound were as in the other case. He passed his silk as a continuous suture & cutting after made so many separate ties. He passed them about so: [Small drawing].

My eyes were opened by these 2 operations. He came right from his office & general house relations, into rooms containing pictures, books, etc., etc. & dust on the windows. He gave no special care or attention to his hands & his assistant gave less, at the same time I believe that all aseptic precautions were in actuality realized, and there was that degree of simplicity & rapidity in his work which impressed me full with his great genius for the work. I waited about 15 minutes after the operation in the waiting room, and as no one came near me, I returned to the Hotel . . . I returned again in the afternoon to tell him I was about to leave town and when I would return. I then had a short satisfactory talk with him, in which he showed his personal bias in his advice as to where to go to see good work. There is *nothing* in Germany, etc. I am shocked when I see all I have written. (Kelly HA. 2 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Germany

By the 1870s, Germany had become the world center for advances in science, including those in medicine. American graduates who wished to enlarge their world view, and to be on the forefront of medicine and surgery were attracted to Berlin, Vienna, and other centers of excellence by the dual appeal of *Lehrfreiheit,* freedom of teaching, and *Lernfreiheit,* freedom of learning.[25] At the suggestion of Harris, Kelly first visited Leipzig to meet Max Sänger (1853–1903). Sänger was becoming well known for his development of the "improved" cesarean section in which the uterine incision was sutured.[26] He and Harris had conducted a very active correspondence.[27] Kelly wrote

> I have just returned from taking supper with Dr. Sänger and his wife in real German style. I called at their house at 8 o'clock, and then we walked about a half-mile to a "Garten" and sat down at a table in the open air, with hundreds of others around, and we ordered supper. I had to make a very full explanation to them why I did not drink beer, which to most Germans is the biggest part of the meal. . . .
>
> This morning the Dr. showed me his private Hospital which contains about 6 rooms for patients besides a kitchen, waiting-room and operating room. The rooms are large with very high ceilings and inlaid floors, the kitchen is tiled throughout. He had 2 patients in at the time, and from one—a prolapse case—he removed the stitches. . . . He has asked much about you. You could not have found a more genial open-hearted man to introduce me to than Dr. Sänger. (Kelly HA. 13–14 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day, Kelly wrote further details of his visit with Sänger.

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[25]T.N. Bonner. *American Doctors and German Universities: A Chapter in International Intellectual Relations, 1870–1914.* Lincoln, NE: University of Nebraska Press, 1963.
[26]M. Sänger. *Der Kaiserschnitt bei Uterusfibromen nebst vergleichender Methodik der Sectio Caesarea und der Porro-Operation.* Leipzig: W. Engelmann, 1882.
[27]*Loc. cit.* note 15.

> . . . I am thoroughly rested now, although the day has been a very busy one. This morn. I went to Dr. Sänger's Hospital, and saw there a case of epithel [sic]: of the cervix, and had a very satisfactory talk with him on the subject of vaginal hysterectomy in such cases, . . .
>
> At one-thirty I dined with Dr. Sänger and his wife at his house, where they had a very appetizing American Dinner for me. After that I had the most satisfactory talk with the Dr. on [several] subject[s]. . . .
>
> Dr. Sänger will send you his [photo]. He said at dinner today that "Dr. [Harris's] *Handschrift* [handwriting] was the *schönste* [most beautiful] he had ever seen." (Kelly HA. 13–14 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Before leaving Leipzig, Kelly wrote to discuss cervical lacerations and related matters.

> I am beginning to get enough insight into their minor gyn. work to see where Germany stands. They (if I may use the plural for my Leipzig experience) will never treat satisfactorily the ordinary clinical cases of minor pelv. disease as long as they use the dorsal position and tubal & crescentic specula. . . . I do not handle the language well enough to put this matter forcibly before Dr. Sänger, as I long to do. I can only make the bald statement of the fact, and back it up with a few stammering explanations, to which he politely replies, "Das glaube ich nich etc." ["I do not believe that . . ."] Women young & old in private in public service are miserably exposed. I do not care how blunted the sensibilities of German women may be, it must keep *many* from seeking treatment, when they are mounted up on a stool, seated, and their clothes pulled up above the waist exposing their naked legs & bodies. I am *delighted* with an idea I got today. . . . (Kelly HA. 15 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly also described an operation he had devised in cases of uterine prolapse, "of which I have seen a large number." He continued,

> Hysterectomy per vaginam is with us as we well know, an *exceedingly dangerous* operation, the percentage mortality being enormous, here it is considered a simple operation, with a *very*

> *low* percent mortality. And when I say hysterect. per vag. is very fatal with us, I think I may fully include (at least in our strong impression) all operations extensively opening the vaginal vault, and, per vaginam, the broad ligaments.

Kelly then described the operation with an elastic ligature to control hemorrhage, and included a drawing. He noted in closing,

> I bought today about $125. worth of medical books. I have succeeded in getting all the back numbers of Archiv für Gyn. Also of Zeitschrift für Gyn also Centralblatt and Volkmann's Sammlung. I will close as the young ladies in the country do by apologizing. "Excuse mistakes" and the didactic tone of the latter into which I unconsciously fell while following out my thoughts. . . . (Kelly HA. 15 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then traveled to Munich to attend the inaugural meeting of the *Deutschen Gesellschaft für Gynäkologie* [German Gynecological Society] from June 17 to 19, under the chairmanship of Franz Wilhelm Carl Ludwig von Winckel (1837–1911). Kelly wrote

> I arrived this morn. . . . pretty tired after trying to sleep all night with my knees drawn up to my chin in a compartment. Dr. Sänger and Dr. J. Donat (of Leipzig) went to a Keller for beer, where I left them and spent the rest of the day sight-seeing. The stores were all closed on ac't. of the death of the King [King Ludwig had committed suicide].

He then described the opening reception and some of the leading gynecologists in attendance

> . . . Credé and Scanzony [sic], Winckel of Munich, who issued the invitations. Olshausen of Halle, Sänger, of course, Schatz of Rostock, Kaltenbach, Leopold, A. Freund of Breslau, Küstner of Jena, Slavjansky of St. Petersburg, Hofrath Dr. Braun of Munich, Fehling of Stuttgart, Prof. Gusserow, Dr. Wiener of Breslau, Krukenberg, Donat, Frommel and . . . P.F. Mundé of New York & others to the number of 50. . . . I was introduced to almost all of the above, & some others, and had many short but very interesting conversations. . . . (Kelly HA. 15 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Three days later Kelly reported that

> The second days proceedings are over and tomorrow will conclude the meetings . . . . Several of the papers have been very interesting and full of new material, while many more have been stupid and a rehash of what the authors or others have said before. Many detailed merely interesting cases. I found it very difficult the first day to catch what they were saying, hearing so many different peculiar voices for the first time, but today I had no difficulty. . . . (Kelly HA. 18, 20 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

A report of the Congress in the *Archiv für Gynäkologie* appeared shortly thereafter.[28] Kelly then expressed a plan which had been incubating in his mind.

> My thoughts continually turn homeward and the prospects of work next year. Will you forgive a little castle-building, better suited to a tired mind than exact scientific discourse. I am very anxious in the first place to secure within a few months after my return from 15–20 beds for gynecological cases in a suitable building. I am more than willing to put all my earnings into this, whatever it may cost, but the great trouble comes that without *general* practice, I make but little money, and it is the vast am't of general work *with* the special which wears me so. Further in the future in a dream as it were, I would like to have a lying in establishment, and instruct some of the midwives in Kensington in a better way. . . . (Kelly HA. 18, 20 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Two days later, following his return to Leipzig, he closed the letter asking Harris to write a letter of introduction to John Knowsley Thornton (1845–1904), one of London's leading abdominal and pelvic surgeons.

> I will ask another favor of you. Will you kindly drop a line to Thornton in London? I am anxious to meet him, and if I have no introduction he will consider me a nuisance. (Kelly HA. 18,

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[28]For instance, see *Archiv für Gynäkologie* 28:446–501, 1886.

> 20 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day, Kelly again wrote from Leipzig of his continued visit with Sänger, purchasing another rare book,[29] and meeting Professor Carl Friedrich Wilhelm Ludwig (1816–1895).

> I must write to you tonight if only to tell you how pleased I was by a compliment Dr. Sänger paid me this eve. We were taking supper with several other Doctors, and Dr. Sänger turned to one, and said he had seen a great number of English speaking people in his time, but he knew no one who was so well acquainted with German literature as Dr. Kelly. Apart from any possibility of the fact, I was delighted Dr. Sänger had such an opinion of me. He went on to say he looked for me to be your *Nachfolge* [successor]. I told him in reply the man was not living in America who could do your work or anything like it. . . . (Kelly HA. 21 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

He then described attending a lecture, and afterward examining a collection of pelves, including those with osteomalacia, rickets, bony tumors from the sacrum and pubis, and so forth. Kelly continued,

> I secured a rare book today which I hope you have not. Credé was many years in getting a copy & only succeeded in '84—that is Mad. Lachapelle's *Prat. des accouche*. If you have them not I want you to accept it as a little memento from Leipzig. Enclosed is the bookhandler's notice. I played a trick on Sänger which brought him around to see me, and made him say "Herr Dr. Kelly Sie find ein schlauer Mensch" ["Dr. Kelly is a clever man"], with his finger alongside of his nose. . . .
>
> My book purchases today have been as follows: Archiv für Gyn. from the first number, Centralblatt from the first number, & Zietschrift ordered. Also Spiegelberg, Winckel's Pathol with life size plates in Lichtdruck, Dieffenbach's surgery an excellent copy, Mad. Lachapelle, Runge, Billroth, and previously bought Winckel's Frauenkrank and Hegar & Kalt. &

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[29]M.L. La Chapelle. *Pratique des accouchemens . . . publies par Antoine Duges.* 3 vols. Paris: J.B. Baillère, 1821–1825.

Schroeder. It has cost a great deal of money but I look upon it really as so much capital. . . .

Not least among my pleasures here has been the constant hourly intercourse in German, which is becoming a very pleasant exercise. When I have not heard any for an hour, I stop the first person I meet on the street, and ask some question about the surroundings which will lead into an elaborate explanation, which I prolong as much as possible. Again excuse the discursiveness and emptiness of these two sheets, but I know you feel a kindly interest in the courtesies which are being extended to me, and in my work in general. (Kelly HA. 21 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Two days later, Kelly wrote

If I begin this letter by saying I have just returned from taking dinner and spending the evening with Prof. Sänger and his wife, you will think I must live there, but it is so. He had given me a special invitation this morn. and this eve. Said "Herr Kelly sie sind immer willkommen" ["Mr. Kelly you are always welcome"]. You see how hospitable he is.

I was glad when he read the Am. Jour. Obs. for June for what I had said before the meeting recorded there accorded exactly with his own view on the subject of appendical disease. I have been taking in so many new ideas lately that I can't begin to record on paper with any satisfaction what I will tell you *via voce*. The methods of disinfection before and during operation are extremely simple and equally effective. I saw this morning some minor work, tomorrow morn. S will perform ovariotomy and Fri. hysterectomy, and Sat. high vag. amputation, the 2 latter for cancer of cervix.

You will not be least pleased with the catalogue of the books I have bought. I have unearthed some rare and valuable works and spent pretty much all I can afford in buying about 100 books. . . .

I sent you today a brief act of the meeting of the Ger. Gyn. Soc. at Munich; will you kindly see it into Dr. Hays hands after making any correction you think best, and please do not let him poke it away as correspondence. It is intended for the Med. News. I do hope I will be able to get a building with large airy rooms on my return for my Hospital! . . . (Kelly HA.

> 23 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following week, Kelly wrote from Berlin

> I left Leipzig on Sat. aft. with many regrets, as I had become so accustomed to the place, and had many kind friends there who allowed me all the special facilities of the place. On Sat. morn. . . . Sänger performed a "Total Extirpation", per vaginam. I examined some of the scrapings the day before, and the case was clearly cancerous. . . . (Kelly HA. 28 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then described the procedure, and included several drawings. He continued

> . . . I arrived in Berlin Sat. night and on Sun. morn. went to the English church, it was a treat to hear the familiar words of the service although the sermon was a bitter disappointment, and while full of moral and Socratic truths did not teach Bible truth. Some ministers must think because the Bible is so familiar we must tire of it! I went to the Lutheran church in the aft. walking down "unter den Linden" to the "*Dom*" [cathedral]. The church was beyond expression cold and unattractive, but the sermon was true & earnest. We poor creatures of circumstances certainly depend much upon externals to aid us in our devotional frames.

He then described visiting the clinic of Karl Ludwig Ernst Schroeder (1838–1887).

> This morn. (28°) I went to Schroeder's Clinic. He was expecting me as I had written to him and in addition Dr. Sänger had given me a note. He received me very kindly and took me through the lying-in & the gynecol. establishment. His establishment consists of two large, square buildings connected by a wing. It is a part of the Konig Universität, and I can only describe it by saying it is *palatial*. I was greatly depressed on coming away as I realized how entirely beyond all possibility it was that we should ever have such an establishment in America. I shall not begin a description as I might easily write pages and be only at the beginning. In the room for women actually in labor were <u>6</u> women!

> I attended Prof. Schroeder's Clinic afterwards, which consisted in demonstrations from specimens before a large class. I went then to the Polyclinic in charge of Dr. Hofmeier, but he was not polite so I left. . . . It is pretty lonely in this large town, not knowing anyone. . . . (Kelly HA. 28 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day, Kelly described watching Schroeder and August Eduard Martin (1847–1933) operate, and how Martin had mistaken him for Harris.

> I cannot help imagining sometimes a wearied expression stealing over your face when my tame letters arrive, but I know this is not so for you have shown such a warm, friendly interest in my work, and I shall continue to write although I have nothing remarkable to say. (Kelly HA. 29 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Later Kelly continued his description of his experience.

> . . . Schroeder performed a very difficult vaginal hysterectomy this morn. for cancerous infiltration of the corpus uteri. The whole operation was well carried out from first to last. Martin is the biggest fisted roughest operator I have seen. He performed 3 laparotomies this morn., and amputated a cervix apparently for an erosion! . . . His chief characteristics were extreme *rapidity,* cleanliness and his operations all looked well when finished. I will write an account of the days work for the Medical News which I will forward to you. Won't you please see that Hays does not put it in the correspondence column. . . .
>
> I will really gain nothing by staying longer than 2 wks here, and it is a very lonely place. One cannot even go to church on a week day. So I will then be able to visit yet Olhausen, Leopold and Hegar at least and *possibly* yet Apostoli the celebrated. (Kelly HA. 29 June 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Several days later, Kelly again wrote of the high and low points of German gynecology.

> . . . I cannot be too thankful that I came to Germany to see the Gynecol. work. You may think it is pure enthusiasm when I

> say I feel very much as if I had been allowed to live for a couple of months in intimate association with men working a hundred years ahead of us, and had then been allowed to return to practice with the increased knowledge. I speak thus of the *surgical* aspect of our science alone. I see now a full explanation of much that used to puzzle me in regard to German work, I see clearly why they can undertake operations, which I should have considered of the gravest character, with impunity. My own work, when I return, will be very different. . . . (Kelly HA. 3 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then described watching Martin operate, and his distress at seeing the manner in which Martin treated his patients.

The following week, he visited Rudolph Ludwig Karl Virchow's (1821–1902) Institute. Virchow had gained eminence for his work in cellular pathology, which became the foundation for understanding the basis of disease.[30] Robert Koch (1843–1910) had announced his discovery of the tubercule bacillus only several years previously,[31] and had demonstrated microorganisms to be the cause of other specific diseases. Kelly described his opportunity to work in a laboratory in the Institute.

> Since my last letter to you I have seen so much of all kinds of interesting work and cases, that I do not know where to begin to give you some idea of it. . . . I have found a golden opportunity to do some work on bacteria in Virchow's Institute, in connection with gynecological work. I spend a half day there, 5 days in the week. . . . (Kelly HA. 11 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following week, Kelly wrote

> I have just received a letter from you written June 21st, giving me much news of home things which I especially long for. I have not despaired of getting an answer out of Dr. A. Martin, and today I handed him your letter to peruse. I think that will

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[30]R.L.K. Virchow. *Die Cellularpathologie in iher Begründung auf physiologische und pathologische Gewebelehre.* Berlin: A. Hirschwald, 1858.
[31]R. Koch. Die Aetiologie der Tuberkulose. *Berl. klin. Wschr.* 19:221–230, 1882.

> stir him up to look over his cases. I saw him perform 4 laparotomies yesterday and today two [more]. . . . I find that the bad cases die here just as in Philadelphia, . . . Martin's rule is that no tumor can form adhesions so tight, that he cannot tear it loose. In every bad case, instead of using a tube through the abdominal wall, he punches a big hole in Douglas' pouch and pulls a big winged catheter up through the vagina. . . .
>
> I am rejoiced to hear you have a case in view for me, I have a feeling that when I return I will have lost my hold. I do heartily wish I could be independent of general practice on my return, but it is yet impossible. . . . (Kelly HA. 14, 15 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then described his association with one of the bacteriologists who taught him to make permanent preparations of several infectious organisms, exhibiting the bacteria *in situ,* of lepra, tuberculosis, actinomycosis, glanders and others, and how to culture some bacteria. Kelly continued

> I have undertaken this work simply to give myself the facilities for a thorough investigation of the gonorrhoeal nature of pyosalpinx. If I have an assistant next year I will be able to push some of these . . . questions in a scientific manner, and I only hope you will feel sufficient interest in this line of work to give me the aid of your counsel and criticism. I firmly believe that the most important discoveries the world has ever seen will be made soon in this very field, the relations of microorganisms to disease and the methods of checking their development. . . . (Kelly HA. 14, 15 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day, Kelly wrote regarding the authorities.

> The police are after me and I am obliged to secure a pass if I remain here longer. It is curious how they watch every stranger coming into town. They seem to live here in constant expectation of war. (Kelly HA. 14, 15 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The Franco-Prussian War (1870–1871) had occurred fifteen years previously, but nationalistic tensions remained. Again, the following

week from Berlin, Kelly wrote further details of the Munich meeting and books.

> I have before me your very welcome letter just received—dated July 7th. I am very glad you wrote to Thornton, your kindness has already secured me so much here, that it will add one to the number. I was sorry to send such a bare ac't of the Munich meeting, but I had but just landed in Germany, and found it extremely difficult at first to follow all that was said. I shall be pleased to see it in the *News* in a new dress. The faulty style was not so much due to haste, as to a constitutional inability to put my thoughts on paper as I would like to have them appear. . . .
>
> I am anxiously looking forward to the time when you shall look over the goodly array of books I have bought, and I sincerely hope you will be pleased with my selection, & consider it fairly representative of the present and past of Ger. Gynecology. I will try either today or tomorrow to write out a short but acceptable account of Martin's and Schroeder's methods with an account of some cases. I will send it to you and will be greatly obliged if you will make any corrections which may seem advisable before handing it to the *News*. . . . (Kelly HA. 21 July 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly's report on the German Gynecological Congress, in which he detailed additional participants and the essence of their papers, appeared in the July 17, 1886, issue of *Medical News*.[32] Of relevance to his later urological work, Kelly recorded that

> Dr. Sänger next introduced . . . a new field for pelvic exploration, the "Palpation of the Ureters, with Demonstrations." He showed that the examining finger in the vagina could feel one or both ureters in about eighty per cent. of all cases, and in a much larger percentage of pregnant women, and that in pyelonephritis such a demonstration often determined a one-sided thickening, and a ureteritis pointed distinctly to the affected side, as he had in several cases proved. Prof. Winckel

[32]H.A. Kelly. The Munich meeting of the German Gynecological Congress. *Med. News (Phila.)* 49:81–82, 1886.

> furnished six pregnant women for a demonstration, which was made to the satisfaction of all present.[33]

Scotland

Ten days later, Kelly arrived in Edinburgh. In an 1850 discussion of the cesarean section at the Edinburgh Medico-Chirurgical Society, James Y. Simpson (1811–1870) had referred to a case of the Edinburgh physician John Thatcher (1784(?)–1853), in which a pregnant woman was gored by a cow, her abdomen opened, and both mother and infant survived. The incident allegedly occurred in Queen's Park (formerly King's Park) of that city, which was used as a pasture. Few details were known of the case,[34] Thatcher himself only affirming that ". . . the child was saved as well as the mother."[35] Harris had asked Kelly to obtain particulars on this cattle-horn laceration case from Thatcher's grandson, Dr. Charles Henry Thatcher (1854–1933), or others, for a paper he was preparing. Kelly described his going to church that morning, and then in the afternoon sallying forth in quest of information on the Thatcher case. He inquired of several elderly people who lived near the park, but could discover no one who knew of the case. As he stated it, "So you see I have started the ball, if it will only lead to the right clue! I shall spare no trouble in working the case up, either among Doctors or people. . . ."

Kelly then noted

> I am longing to get to work again and among my patients, and, not least of all, I am anxious to unpack my books, and to see what you will think of them. (Kelly HA. 1 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Later that evening, thoughts about a Sunday evening sermon were on Kelly's mind.

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[33]*Ibid.*, p. 81.

[34]J.Y. Simpson. [On the Caesarean Section, Cattle Horn Cases]. *Monthly J. Med. Sci.* (Edinburgh & London) 11:88–89, 1850.

[35][J.] Thatcher. [Case of a woman gored in King's Park, Edinburgh, with recovery of herself and foetus.] *Monthly J. Med. Sci.* (Edinburgh & London) 11:88, 1850.

> You will exclaim when you see this "What two letters on the same day!", but you occupy to me very much the position of the priest in the confessional to the penitent—that of an unseen, but believed to be sympathetic, counselor. I have derived so much pleasure from Dr. Wm. Taylor's sermon this eve. that having no one to talk to about it, I write a few line before going to bed. He preaches in a course before a great audience of Edinburgh's best people, in the Union Presbyterian College. His subject was "I am not ashamed of the Gospel of Jesus Christ", and dealing with it from three points of view the Historical, Prophetical and the moral aspects, he preached such a sermon as I have only heard from him in New York. It was to me after my stay in Germany, like a great refreshing drink to a thirsty man.
>
> I had not fully realized what a dreadful unsatisfied *want* German atheism creates, until I came again Tues. to review the strong grounds of my confidence that Christ is indeed Lord and God, and our only means of Salvation. Affectionate, kind-hearted and attractive as the Germans are, the most that can be said of their present culture is that it stands very much where the ancient Grecian did in its better days, they know of nothing better in the world than entire devotion to, and worship of, art and science. These are their Gods, and beyond these they know of, and acknowledge no other. Even the highest pulpits in the land are tainted with this moralistic philosophy. . . .

He continued

> . . . It is dreadful to think what a moral cesspool Europe is. Where will one find true religion among the millions in Russia, in Austria, or Germany or France? When will the time come when all people shall serve our Lord and enter his courts with praise? I fear not in my time. The remedy must lie largely with ourselves, that is more earnestness, more thoroughness of devotion, more constant study of the word and hence partaking more frequently of the strengthening Bread of Life. It seems to me if all Christians lived up to this requirement the work would progress under the blessing of God's spirit with hundred fold rapidity.
>
> Well I have unburdened my mind and have, I hope, not wearied you. So I will say Good Night. . . . (Kelly HA. 1 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In his aforementioned May 6 presentation to the Obstetrical Society of Philadelphia, Kelly had also quoted a letter from Thomas Keith (1827–1895), a Scottish pioneer of ovariotomy and gynecologic surgery. In this letter Keith had stressed the importance of surgical cleanliness, and that "[a] weak carbolic solution applied to the wound can do no good—nor harm. You may safely use hot water. My instruments . . . are scrubbed with a nail brush, especially the forceps points. . . . The greatest risk is that we put in septic matter on our hands, instruments and sponges."[36] The following day, Kelly again wrote of his attempt to visit with Keith, and visiting with his son Skene Keith (1858–1919). Following recording several anecdotes regarding Tait, Kelly noted ". . . Germany is the place for good scientific work. Everything here is tainted with provincialism. . . ." (Kelly HA. 2 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions). Later that evening, Kelly wrote regarding the cow-horn laceration case, and that he had visited John Thatcher's grandson Charles. "We will have to take a run up here in two years for a few days at least, there is so much that is of great historical interest. Have you ever visited Edin. [sic]?" (Kelly HA. 2, 3 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Several days later, Kelly again wrote. After expressing distress about the health of his nurse, he noted spending time with David Berry Hart (1850–1920), who had just published a large folio *Atlas of Female Pelvic Anatomy,*[37] and seeing Hart's anatomical specimens.

> I saw Dr. Keith (Father) today. He is a noble old man, not so old, however, as broken down. He was just out of bed, but would go out very imprudently, and called a carriage and drove me around with him to see a number of his private cases. He was just the Keith I had imagined him to be only it was painful to see him so evidently broken down. He has kidney trouble which he told me he attributed to the use of [Lister's] carbolic spray in [his] laparotomies. He is a great tall, gaunt man, somewhat stooped, with drawn features and a great red beard. He has a very bright eye, and a good, honest expression. . . .

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[36]*Loc. cit.* note 22, p. 112.
[37]D.B. Hart. *Atlas of Female Pelvic Anatomy.* Edinburgh: W & AK Johnston, 1884.

After hearing more about Lawson Tait, Kelly observed

> . . . I cannot conceive of anything more vile than a man in Tait's position so confusing all our work, and ultimately bringing such discredit upon English gynecology. It will put us back immeasurably for to a German or Frenchman if Tait lies why not all the rest. . . .
>
> I believe I have made one practical observation—that it does not do for a man to perform an operation, however excellent, and then go away and leave the whole thing in the hands of others, they have the after care, and they having the say as to whether it succeeds or not! (Kelly HA. 5 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day (August 6) Kelly wrote about watching Keith, Jr. perform an ovariotomy, and another visit with D. Berry Hart.

> I have just completed, and forward by this mail, an account of some of the Berlin work. I have done my best and hope it will please you. Won't you be kind enough to read it over and make any correction you may see fit. I do not wish to say *anything* unkind or unpleasantly personal. You will, however, notice that in the description of Martin's work, there is room to read between the lines. He certainly deserves reproof for always making his visitors stand in a puddle of water which soaks their feet. . . .

He concluded

> P.S. First and last—I hope you will like the M.S. (Kelly HA. 6 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Three days later, Kelly again wrote:

> As you must surmise, I have been so far utterly unsuccessful in finding a clue to the Thatcher case. I have stirred up the memories of at least 7 of the most ancient inhabitants, whose brains are replete with the stories of the old times, but they have not the slightest recollection of any such case. I have, however, thoroughly interested an old Park Guard in the subject and he will continue to prosecute by inquiries, and, having my address, will write if he finds anything at all. It is impossible to find out any-

> thing through the Doctors, as you said. I am very sorry and not a little chagrined, but it can't be helped. The assertion is "Oh, yes! The Mother got well". . . . (Kelly HA. 9 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In his report the following year on "Cattle-horn laceration cases . . .", Harris noted regarding John Thatcher's case (No. 7 in Harris's series),

> As he was not in the habit of publishing his cases, nothing more can be ascertained; and all searches made in Edinburgh among old residents have failed to discover any traditional account of the injury.[38]

England

Several days later, Kelly was on the south coast of England, attending the annual meeting of the British Medical Association held in the Royal Pavilion in Brighton. Following a day of organizational formalities, Kelly wrote of the admirable opening "Address in Medicine" by John Shaw Billings (1838–1913), of the U.S. Army Surgeon General's office.

> This is the early morning of a lovely day at Brighton, . . . I am very glad that I have embraced the opportunity of seeing this very attractive place. Have you ever been here and seen the cliffs, and walked on the shore road just above the sea, and breathed the fresh invigorating air? . . . yesterday I [call] the American day. In the morn. the address in medicine was delivered before the whole Society by Dr. J.S. Billings of Washington. To say that his address was *admirable* would not begin to express the satisfaction and pride with which I listened to all that Dr. B. said. His subject was the present status of medical practice in America and its future work. He most happily explained the reason for the great differences prevailing in the various sections of the country, showing clearly that the process was one of development and natural selection with which it would not be wise to interfere by any radical measures, show-

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[38]R.P. Harris. Cattle-horn lacerations of the abdomen and uterus in pregnant women. *Am. J. Obstet. Dis. Women Child.* 20:673–685, 1887.

> ing also that in the great medical centres the *status* was much the same as in Gt. Britain. All this was brought out in a very attractive manner, and in the end he briefly indicated, by some well executed maps of the relative death rates from Cancer, Diphtheria, Scarlatina, Phthisis & old age, some remarkable points of difference & sectional peculiarities and some lines of work in which the medicine of the future must labor. Dr. B.'s manner throughout was quiet and dignified combined, however, [with] considerable earnestness and his remarks were interspersed with a series of happy bits intensely appreciated by his audience, who frequently interrupted to express their approval, in fact he took the whole meeting by storm, and at the close after a most flattering eulogium by two of the most prominent members, called upon by the president to express the sentiments of the meeting, Dr. Billings simply arose and in the best of taste, without a trace of affectation said, "Gentlemen, words fail me in reply, I thank you warmly". (Kelly HA. 12 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Billings' address "Medicine in the United States . . ." appeared just a few days later in the August 14 issue of the *British Medical Journal*.[39] It was also published the same date in the *Medical News* of Philadelphia.[39] In his review of problems in medical education and practice in the U.S.A., Billings observed in relation to obstetrics, "Almost the only matter in which figures seem to demonstrate the importance of superior medical education and skill is in the statistics of deaths due to childbirth and of the results of surgical operations."[40]

Kelly then continued, writing about the sectional meeting on Obstetric Medicine.

> Two o'clock in the afternoon found me at one of the sectional meetings—the Obstetrical, of course—where four addresses and the discussions upon them occupied the afternoon. Dr. Barnes (Sr.) read a paper upon craniotomy & its alternatives, and Dr. Kinkead of Dublin followed him with a eulogium of

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[39]J.S. Billings. Medicine in the United States, and its relations to co-operative investigation. Annual Address in Medicine, delivered before the meeting of the British Medical Association, August, 1886, Brighton, England. *Brit. Med. J.* 2:299–307, 1886. (Also published in *Med. News (Phila.)* 49:169–180, 1886.)
[40]*Ibid.*, p. 303.

> the Caesar. Sec. The discussion was of a very desultory nature and the only ray of light let in upon the subject was a brief exposition by Dr. Lusk of NY. . . . [on the Porro Caes. Sec. and Laparo-elytro] . . . They were evidently much astonished for every subsequent speaker referred in flattering terms to Dr. L's remarks, and seemed to think that the Dr. had expressed his own ideas in a way which he (the speaker) could not have said so well. (Kelly HA. 12 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Kelly then referred to papers by Thomas Addis Emmet (1828–1919) of New York, William Morse Graily Hewitt (1829–1893) of London, and other matters.

> Dr. T.A. Emmet (N.Y.) then read a paper on "Certain Moot Points in Gynecology" [on various aspects of pelvic inflammation, dysmenorrhea, and in which he debunked uterine flexion as a cause of diseases, and the use of internal medications of the uterus and cervical canal] in which he talked far over the heads of his hearers, [as] Dr. E. afterwards realized, for he said to me he had come this time on invitation, but he would never come again. . . .
>
> Dr. Grailey Hewitt then read somewhat of a ramble on the subject of the "Etiology of Flexions of the Uterus". He is a very slim, weak, sickly looking old man, and as the expression goes "does not look as if he could last long". . . .
>
> . . . A word before going to bed. At the meeting today Tait said "who had ever diagnosed extra-uterine pregnancy before rupture?" I replied, "I have" and detailed my case and the various diagnoses I had at first made until I wrote to you I believed I had a case of ex-u. preg. and proved it by operation. Tait did not appear to like this for he disappeared immediately after. I also had the pleasure of addressing the meeting at length at a later stage in the proceedings upon the essential elements of success in all operations upon the vagina for prolapse, also upon the subject of obscure cervical tears. I felt naturally both anxious and nervous as to my reception after expressing my positive convictions upon two such important subjects, but was much cheered and relieved by the good round of applause which they were kind enough to give me at the conclusion of my remarks and blackboard demonstrations. The Pres., Dr. Meadows, handed me a slip of paper inviting me to lunch with him

> tomorrow. I had the pleasure after of meeting many of the members in a very pleasant way, and of some little conversation with several.
>
> I will send you the full report of the meetings for the Med. News as soon as I can get a little time to write them up. I will only ask one favor of Dr. Hays in this connection, a trifling one, but fussy people will worry over trifles, and that is that, he shall neither insert "Reported By", for I am no reporter, nor "Yours Resp." I *am* "very respectfully" his, but there is something about it that offends my eye in this particular connection. (Kelly HA. 12 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day Kelly wrote about the conclusion of the meeting, and papers by Thomas Savage (1839–1907) of Birmingham, and luncheon with Alfred Meadows (1832–1887). Meadows, physician-accoucheur to St. Mary's Hospital, London, served as president of the Section of Obstetric Medicine of the British Medical Association, and was the first president of the recently formed (December 1884) British Gynaecological Society. Kelly continued

> The President, Dr. Meadows, then invited me to make some remarks, which I did. . . . among other things I took issue with Dr. Imlach, who insisted that any man who questioned his work should come to Liverpool and spend a week or two and *see* it; I insisted that every man who was doing work of this kind should *preserve his specimens*. . . .
>
> Dr. Meadow's lunch was a very handsome one, given at the Grand Hotel to about 16 gynecologists. I am staying over until tomorrow to go up to London in company, when I shall go through to Birmingham and spend a week. I am a little doubtful as to the kind of reception Tait will give me. I have lost all my respect for the man, and I am afraid my manner shows it. (Kelly HA. 13 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In the discussion to a paper on the treatment of extra-uterine gestation, R. Lawson Tait stated

> . . . out of all his experience—and he believed it to be the largest yet put upon record—he had never yet been called upon to make a diagnosis in tubal pregnancy before the rupture had

> taken place. In fact, there were no symptoms in tubal pregnancy until rupture was established. He did not know of anyone who had ever asserted that he had made a diagnosis of tubal pregnancy before rupture had taken place; certainly he (Mr. Tait) had never been called in to such a case.[41]

In response to Tait's question, "Who had ever diagnosed extrauterine pregnancy before the rupture?" Kelly announced that he had done so, and had proved the diagnosis by operation. This was in reference to a case Kelly had reported earlier that year to the Obstetrical Society of Philadelphia.[42] In this case of a 22-year-old woman, with Harris as a consultant, Kelly had made the presumptive diagnosis of unruptured right extrauterine gestation. He then successfully removed the ~ 3.5 by 2.5 inches in dimension tube and fetal sac. Kelly stated that in his case the diagnosis was based upon the rapid enlargement of the abdominal mass, pain, expulsion of decidua, and subsequent contraction of the sac. Kelly planned the operation to relieve the patient's continuous pain, and concluded that the fetus ". . . was not an innocuous mass which would inevitably be absorbed."[43]

In later years, Kelly recalled his being put down by Tait for his "cocksureness" regarding the ease of diagnosis of extra-uterine pregnancy. He also stated that some of his British brethren were pleased to have him stand up to "their Goliath," and that his confidence came from having ". . . been trained for the battlefield in the Philadelphia Obstetrical Society."[44]

The following year in a letter to the editor of the *Annals of Gynaecology,* Tait referred to Kelly's "tramp" visit to Birmingham.

> Dr. Kelly says that he "thought Tait jumped at his diagnosis in extra-uterine pregnancy. I have heard that he makes his incision, runs in his hand, pulls out something, says extra-uterine pregnancy, and throws it away. Now it will take more than this

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[41]Tait discussion of R. Petch. Extra-uterine gestation, treated by Galvano-puncture. *Brit. Med. J.* 2:1092–1094, 1886.

[42]H.A. Kelly. A unique case of extra-uterine pregnancy, complete removal of the sac and contents—Recovery . . . with a critical examination of the cases of faradic felicide [sic] and remarks upon its dangers, by Dr. R.P. Harris. *Maryland Med. J.* 15:51–54, 1886.

[43]*Loc. cit.* note 41, Kelly discussion of Petch, p. 1094.

[44]H.A. Kelly. History of American gynecology: A brief outline. In: *Obstetrics and Gynecology,* A.H. Curtis, Ed. Philadelphia: W.B. Saunders, 1933, Vol. 2, p. 479.

> to make a diagnosis; we must make the section under the microscope, and make a very thorough examination."
>
> This is the same young gentleman who at the meeting of the British Medical Association at Brighton was so cock-sure of having diagnosed a tubal pregnancy before the period of rupture,—when he had not run in his hand; when he had nothing to pull out, and nothing to throw away; when, in fact, he had no microscopic examination and no very thorough examination; nothing but an overwhelming belief in his own infallibility and the mendacity of everybody who does not agree with him.
>
> Dr. Howard Kelly's behavior only shows completely what danger there is in these "tramp visitors." If they are allowed to come, they don't understand what they see, and if they are not allowed to come, they invent anything which their malicious ingenuity can suggest.[45]

Tait stated that all of his specimens of ruptured tubal pregnancy had been subjected to microscopic examination, and had been shown before the British Gynaecological Society, and ". . . none of the competent critics there assembled have expressed dissatisfaction with the exhibition." He persisted that most of his specimens were in the museums of the Royal College of Surgeons, London, and Queen's College, Birmingham, where Kelly might see them. "As for throwing any of my specimens away," he concluded, "everyone who has seen my practice knows that that, at least, is a lie."[46]

In his letter to Harris from Brighton, Kelly continued,

> I wish a telescopic eye could be given me which could peep around the arc which separates Brighton from Phila. and would discover all you are doing in Philadelphia. I hope for the sake of all the poor little children, especially in Kensington, that the heat has not been great. Hoping that you are well and *comfortable* in this Aug. weather (Kelly HA. 13 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Two days later, Kelly wrote from Birmingham

> After the breaking up at Brighton, Dr. Earle of Chicago, and Dr. Ranney of Mich. and myself, came up to London together,

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[45][R.]L. Tait. Dr. Battey's attack on Mr. Lawson Tait. *Ann. Gynaec. Paediat.* 1:467–468, 1887–1888.

[46]*Ibid.*, p. 468.

> where we parted, and I came through to B[irmingham]. The meeting at Brighton taught me an important fact, and I am fully prepared to subscribe to all Dr. Billings said in his most excellent address. The fact is that men from all over the west are realizing the importance of going abroad, leaving their practice and seeing better work. The standard is low, but they realize *that* fact themselves and that is certainly half the difficulty, on the road to improvement, overcome.
>
> Again, there is lots of good honest work, and devotion to the cause, in such men, and it is not wise to point out their errors in other than a friendly, sympathetic way. They have invariably treated me personally with a deference I have no right to expect; and have said kind things which I will not repeat.
>
> I hear you so much spoken of on all hands that I am building castles on this side of the water, which you are to dwell in next year, or year after, when I will follow along, and like the moon—*alienâ luce lucebo* [I shall shine with your light].

Kelly continued, meditating upon his religious convictions.

> I have, as I wrote you, felt much troubled by the depraved religious life of Germany, and I was worrying much about England, . . .

In a lengthy soliloquy, he continued, expressing his angst over the ". . . so called Salvation Army . . . and the excessive ritualism of a branch of the Church. . . ." (Kelly HA. 15 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following day Kelly wrote from Birmingham about his loneliness, his writing a report for *Medical News,*[47] and his desire to return to work.

> I write more for company than anything else, as I am most desperately lonely in this big Hotel and city without anyone to talk to. I sat five hours this morn. writing some ac't of the Brighton Section meeting, which I sent you. I would be very glad if it could appear *early* in the Med. News. I sent Dr. Hays the reports of the three days proceedings as published by the Society. I hope they will be of some service to him. . . . If the

[47][H.A. Kelly] The meeting of the British Medical Association. *Med. News (Phila.)* 49:189–190, 1886.

> M.S. should need correction anywhere won't you please correct it. As for errors in orthography, I only have the lame excuse that I ruined it by writing shorthand at college. . . . Strong as my feeling about Tait's statements is proving to be, I shall never attempt to hit him. I will let somebody else do the fighting. It is a thankless task, and does no one any good, and often hurts a good man by making him so angry he loses his judgement. Is it not so?
>
> Oh, that I were at home now and at work at some abdominal cases! I do hope Kate is better. Do you know Miss Howarth who has been visiting her? She is one of the most faithful, sympathetic workers among the poor I ever met. . . . I cannot help regretting my want of success in Edinburgh relative to your commission, I think of it often. (Kelly HA. 16 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Several days later, Kelly wrote from Liverpool while waiting for his parents and sister to arrive.

> . . . I have much I would like to write and ask you, about my interests up-town. First, I want to move, as you have advised. Second, I cannot stand the pressure under which I have worked in the past, and the pleasure my work is now giving me, and the wonderful way in which my mind has been sprouting and developing new ideas and vivifying old ones in the gynecological field, only shows me the strain I was under before its release, and makes me hesitate to subject myself to such an ordeal in the future. Will it be wise to make this change immediately, and can my practice stand it? Won't you advise me when I return. . . .

Kelly then referred to a rather serendipitous encounter with George Henry Fox (1846–1937) of New York, who had produced a valuable atlas of skin diseases.[48]

> I met in Birmingham Dr. Fox the dermatologist of New York, he gave me a full account of the path which led him to fame, and it was the publication of a series of photographic plates of skin diseases! If I could only get up a series representing everyday gynecology, and have them reproduced by artotype, with a sufficiently lucid text, I think it would help me a great deal in

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[48]G.H. Fox. *Photographic Illustrations of Skin Diseases.* New York: E.B. Treat, 1880.

> establishing myself as a specialist. (Kelly HA. 21 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

This meeting was to have a profound influence upon Kelly's work for the next two decades. In particular this apparently gave Kelly the idea for the photographic *Stereo Clinics*. In a series of volumes of stereoptic pictures, Kelly illustrated various gynecological operative procedures including abdominal hysterectomy, uterine suspension, and cytocele repair.[49]

France

Three months earlier, Kelly had written to Harris, asking him to "Tell Dr. Scott if I can get to Paris I will haul Apostoli out of his lair and extract all the information I can get and bring her any new device I can." (Kelly HA. 19 May 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions). He now wrote about his anticipation of meeting Georges Apostoli (1847–1900).

> I expect to be in Paris about Wed., to stay about 3 days, to visit the renowned Apostoli (please tell Dr. Scott) and to be back home and peeping to see if your hat is hanging on the rack, before you expect me. (Kelly HA. 21 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Four days later, Kelly wrote from Paris about brushing up on his French, as he was ". . . interpreter for the party." He stated that when he returned to London he would call upon Dr. Playfair, and one or more of the others Harris had mentioned, ". . . and will add one to the many obligations I already owe you." (Kelly HA. 25 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

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[49]H.A. Kelly. *Stereo Clinic. Removal of the Vermiform Appendix.* Troy, NY: Southworth, 1909.
H.A. Kelly. *Stereo Clinic. The Relaxed Vaginal Outlet.* Troy, NY: Southworth, 1909.
H.A. Kelly. *Stereo Clinic. Abdominal Hysterectomy for a Fibroid Uterus.* Troy, NY: Southworth, 1909.
H.A. Kelly. *Stereo Clinic. Suspension of the Uterus.* Troy, NY: Southworth, 1909.

Several days later, Kelly thanked Harris for his favorable remarks.

> . . . I am very glad you found the ac't interesting, and only hope it will interest others when it appears in print. If it appears in the *News* I would like them to reserve me 25 copies. (Kelly HA. 29 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

He again mentioned his idea for an album of photographic plates of gynecologic disorders.

> . . . I have a great idea connected with photography, of issuing a series of hand colored photographic plates illustrating commoner gynecological affections, life size and with a brief text, say about 20 plates. Somewhat on the order of Fox's Atlas of Skin Diseases. What do you think of it? . . . (Kelly HA. 29 August 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Three days later Kelly again wrote with some thoughts about his trip, and some of the individuals whom he had met.

> . . . I have long thought that doctors were divisable into two . . . classes. My enthusiasm at first led me to believe that medicine was a calling as distinct as the ministry, and I well remember my disappointment as I found it necessary to open up the second category, and classify my friends in it one after another, as I found it was nothing but a matter of pure business with many and they were working for bread and butter and shekels, and not for love of the work. . . . The *first* are the men who love to meet their co-workers in the field and talk gynecology in the Society and out of it, and on the street and at dinner, and gynecology for dessert, and the more they talk the more interested and earnest they grow. They form a delightful free masonry which has its fellows all over the world, and their code is one which no citizen, not to the manor born, can imitate. I speak feelingly, for in my tour I have met gynecologists and gynecologists, and many of these free masons of the trade have given me the pass word, and I feel that *there* I have left true friends behind, who will always gladly entertain me or I them.

> I cannot on this account help hating that spirit of jealousy which is abroad, and so mars the spirit of harmony in our ranks, and not only disturbs us so, but actually hinders the progress of our science, and in some instances induces men to forget every consideration & to *lie* to push their own/ miserable itching desire to make a reputation.

Kelly then closed with "I am anxious to hear if you have thought my Brighton [roll] interesting & worth printing." (Kelly HA. 1 September 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Two days later Kelly again wrote, "Your letter of Aug. 24th reached me yesterday, and like all the rest was very welcome." He continued, expressing his distaste for ". . . a certain British abdominal sectionist and that his very name is distasteful. . . .

After some other comments about his regret at not being able to see Apostoli, he closed,

> If the str. arrives in Phila. the morn. of the 27th inst. I will call on you in the aft., and if in the eve. I will call the next morning. We go to Strasbourg tomorrow, then to Mainz to Cologne and via Ostend & Dover to London, where I leave the family. (Kelly HA. 3 September 1886 [Letter to R.P. Harris]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In his final letter of this series, written September 12, 1886, from London, Kelly observed

> A last line before sailing. We all arrived here last night after a very satisfactory trip through Germany. I was especially pleased as I was able in Heidelberg to buy some specula and needles, in particular an intestinal needle I want to show you, which I had been regretting I did not get ever since leaving Berlin. But the fact was in Berlin and Leipzig I bought so much I began to think the thousand dollars I brought with me would not hold out, so I had to stay my hands. Curiously enough, I will just have drained my letter of credit to the last drop when I board the Str. on Wed., and if the Customs in America lay vicious hands on me, I fear I will have to hunt the nearest Pawn Shop, and send my clothes up the spout to redeem my books. . . .
>
> Well *auf widersehen* soon. With my best regards to Dr. Scott and, many regrets that I could not see Apostoli. (Kelly HA. 12 September 1886 [Letter to R.P. Harris]. Located in the

Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

1887

By 1887, Kelly's two-room facility in north Philadelphia had evolved into the Kensington Hospital for Women, and was supported by voluntary contributions.[50] On his second trip to Germany, in the summer of 1887, Kelly reflected upon the scientific work in that country.[51, 52] After visiting the clinics in Berlin, Breslau, Dresden, Giessen, Hamburg, Kiel, and a half dozen other centers he wrote, ". . . the work in all these clinics is excellent, of the very highest order, and . . . is throughout very *uniform*."[53] Kelly then stressed what to his mind was the strength and genius of the German medical system, its excellence in every center.

> . . . in the first place, a German specialist is a true specialist, *he treats no cases whatever not in his own peculiar branch*. In the second place, opinions expressed in articles and essays are based upon a careful, long investigation of many cases. Immature *opinions* are not, as a rule, foisted upon the profession. The work then has a solid basis of certainty, and with the time thus devoted and the constant immersion of the specialist in his subject, his critical faculties are also sharpened, and thus work along this line progresses visibly from year to year.
>
> The German specialty is a Brotherhood in which the individual members are all earnestly working for the good of the body at large.[53]

Kelly contrasted this with the situation in America, which, although it was improving, was quite uneven. As an illustration of the excellence of the German facilities, he described the hospital for women in Rostock, under the direction of Professor Friedrich Schatz (1841–1920), ". . . second in its appointments to none in the world."[54]

Based upon this experience, Kelly gave his vision for the future of gynecology in America.

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[50]*Loc. cit.* note 7, p. 44 ff.
[51]H.A. Kelly. Letter from Leipzig. *Pittsburgh Med. Rev.* 1:235–236, 1886–1887.
[52]H.A. Kelly. Letter from Breman. *Pittsburgh Med. Rev.* 1:256–258, 1886–1887.
[53]*Ibid.*, p. 256.
[54]*Ibid.*, p. 257.

> . . . I long to see the day come when in every larger town throughout the whole United States will be found one or more gynecologists doing work which in its quality shall be irreproachable, and then, and then only, will the greatest good to the greatest number of suffering women be attained. This high standard once reached, and existing evils thus corrected, we will then devote our better efforts to the cause of *prevention,* a topic now too little discussed, although we rate it by the *ounce* as worth more than the *pound* of *cure.*[55]

During this 1887 trip, Harris wrote Kelly at least two letters. In the first, Harris had written

> You gave me no address in your letter, so I write to the care of Dr. Sänger, to whom I send a cattle-horn Cesarean pamphlet—I have just received a 10th case, where a Bison bull ripped up a Pawnee squaw, threw out the foetus which was disemboweled—and the woman was saved. (Harris, RP. 26 July 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Harris also referred to the topic of advanced extrauterine gestation, upon which he was working.

> I have now 27 cases of primary laparotomy in extra-uterine pregnancies, with 3 recoveries. Lazarewicz of Kharkof saved the third woman. 16 children died within a month and 14 of them within 50 hours—12 women perished from haemorrhage and probably several more, set down to "shock" and "collapse". (Harris, RP. 26 July 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Harris also referred to a patient upon whom Kelly had operated who was recovering well, the terrible summer heat and humidity, and the growth of several luffa plants in the Kensington Hospital yard. (Harris, RP. 26 July 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

A week later, Harris again wrote

> Your letter of July 18th came three hours before the one of the 16th. They must have come by fast and slow steamers

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[55]*Ibid.,* p. 257.

> respectively. I am glad to find you had the moral courage, to carry the Christian sabbath and the teaching of Canon Wilberforce with you into Germany, and hope you will always have the grace to do right. (Harris, RP. 2 August 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

He then referred to several other patients

> The woman who had tubercular peritonitis has the whole abdominal wound open now, and later had an abscess break. Miss Little goes to see her and help her wound. She has as yet no cough. I am trying to get an ovariotomy case for you from Franklin county, but do not know that I shall succeed, as the Dr. who has written to me, is a stranger, and has himself someone in contemplation as an operator. . . . (Harris, RP. 2 August 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Harris also referred to R. Lawson Tait.

> "Whom the gods wish to destroy, they make first mad". This applies to Tait in his foolish abuse heaped upon other men who differ with him in opinion. He tries to make out that Sänger far exceeds him in using abusive epithets, when it is clear, that the reverse is the case. (Harris, RP. 2 August 1887 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

1888–1889

In 1888, Kelly performed the first cesarean section in Philadelphia in fifty years in which the mother survived.[56] Among his colleagues, this did much to enhance his reputation as a bold and skillful surgeon. For the academic year 1888–1889, Kelly served as Assistant Professor of Obstetrics at the University of Pennsylvania. During this time, Harris wrote to Kelly that

> I enclose a Sunday-written note of Prof. Wood—As I have heard nothing from you about the Musser vacancy, and do not

[56]H.A. Kelly. A case of cesarean section. *Med. News (Phila)* 53:320–322, 1888.

> know that you desire to be elected to fill it, I do not feel authorized to take any steps in the matter: besides, as I stated on a former occasion it is not the place for you, and you are much better without an obstetric position five miles distant, than with it. If I could have seen you on Wednesday or Friday evening, I could have enlightened you as to the positions of several of the parties who are so anxious for your election! I believe there is much underhand work in the matter—Drop It! (Harris, RP. 12 March 1888 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

During the summer of 1888 and the summer of 1889, Kelly spent several additional months in Europe. On this last visit he married Olga Elizabeth Laetitia Bredow (–1943), daughter of Justus Bredow, professor of gynecology at Danzig, whom he had met in Berlin. They had nine children.

In June 1889, William Osler had moved from Philadelphia to Baltimore to become chairman of medicine at the newly founded Johns Hopkins Hospital and School of Medicine. Because of Osler's esteem for Kelly, to whom he referred as "that Kensington colt,"[57] Kelly was chosen to be the first professor of obstetrics and gynecology at Johns Hopkins.

That June, Harris wrote

> I write today, to congratulate you upon an important event in your life, which has just been concluded in Germany. Say for me, to Mrs. Kelly, that I heartily congratulate her, in securing the affectionate attention and care of one of my most sincere friends. I hope at a future day, to welcome her to America, and to become one of her friends, as I am, one of her *ehemann* [husband]. (Harris, RP. 27 June 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Harris then referred to a patient in need of surgery whom he hoped to secure for Kelly.

> I have very good news for you, as I hope to be able to send you an abdominal hysterectomy after you come home, that may be

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[57]W. Osler. William Pepper. *An Alabama Student and Other Biographical Essays.* Oxford, England: The Clarendon Press, 1908, p. 227. Also see Cushing, *loc. cit.* note 6, Vol. 1, p. 293.

> worth $1,000. The lady is 31—has a large fibro-myoma of four years standing—is subject to menstrual excess—has been under electrical and medical treatment, and has made up her mind to submit to exsection. The case came to my notice two days ago, through Dr. Faught, who is her physician and came to me to advise him in selecting an English or American operator. The family is wealthy; resides in Philadelphia when at home, and the saving of the patient, of great moment to the household. The Dr. made no objection to her going to Baltimore in the fall, and I will secure his interest by sending him tomorrow, one of your myomectomy pamphlets. If you get this case from Philadelphia, it will be a very large feather in your cap; and if God enables you to cure her, there is no knowing what it may lead to. . . . (Harris, RP. 27 June 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

A week later he continued upon this theme.

> Since I last wrote to you, I have received a note from Dr. Faught, which is here enclosed. It looks as if the case would go in due time to Baltimore. Phew!! if it does, the Price party will have something new to grit their teeth on. (Harris letter to Kelly 5 July 1889)

Harris also brought Kelly up to date on several operative cases, and reminded him of a book bill: "You forgot to pay the College a bill of $11.70 for books." (Harris, RP. 5 July 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Several weeks later Harris apprised Kelly of criticism directed at him (Kelly).

> Was the first case referred to, the one you proposed to leave Hirst last year? Several of your envious rivals made a mountain out of this mole-hill, at your expense: it is safer never to rate a case according to hearsay evidence, or a conjectural idea of a possible requirement in delivery, as you very innocently did in this instance. You are honest, but have to deal with very unscrupulous rivals, in Price, Hoffman, Parvin and Hirst. Getting rid of this crew reconciles me to your going to Baltimore. When you begin your work there, be wise as a serpent, and harmless as a dove. (Harris, RP. 26 July 1889 [Letter to H.A.

> Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

The following week, Harris again wrote.

> You may be thankful to have escaped this hot, moist, damp, showery summer, with the weather in command of "General Humidity"—20 extra feet of water in the Schuylkill this week—wind N.E.-S.E.—but for days past S.W.—rains a dozen times a day—doors stuck fast—clean collars impossible—N.W. wind hoped for, in vain—Watermelons washed out—cantaloupes dubious—corn prostrated—blackberries small and sour—peaches half gone. This is no season for horticultural success. . . . Delaware has been flooded, and fruit largely destroyed. I hope the Baltimore market may be able to give Mrs. Kelly some fine cantaloupes and peaches from a late crop. If you eat a good cantaloupe anywhere; wash, dry and save the seeds for me. Notwithstanding the weather, I have a hope of success in growing some from the land of Noah, which have proved themselves wonderfully deluge-proof. The melons are small, oval, finely netted, and the plants green and healthy. These seeds came last year from Ararat—latitude some as Phila. If I get a fine melon I shall name it the "Shem". I have 26 kinds of watermelon seeds on trial, but I fear they have been drowned out on Burpee's farm at Doylestown. Last year he had two months of dry weather. (Harris, RP. 2 August 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

In concluding, Harris requested that he

> Tell Mrs. Kelly that she must learn all the English she can, to talk to me; for I expect now to divide my attention between the man and his "better-half". Give her my kindest regards. I have written to Sänger by this mail, to wake him up, as he is much behind in his correspondence. (Harris, RP. 2 August 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Two weeks later, just prior to Kelly's return to the United States, Harris wrote,

> Kind regards to Frau Kelly who I trust will escape the *mal de mer* . . . There appears to be a passion now for writing papers

> on the Cesarean section, and each aspirant sends to me to know what has been done, up to the last advices. Ten men have made such application within two weeks. I have sent records to Germany, Italy, St. Louis, Columbus, O, North Carolina, Kentucky, Indiana, New York, and to two authors of works on Surgery. The Porro list stands at 265, with 121 deaths, and the Sänger, at 194, with 47 deaths. There were 26 Porros in 1888, with only 4 deaths. The Sängers for 1888, were 56 for Europe, with 8 deaths, and 12 for the United States, with 7 deaths. We beat the world on deaths—Germany has lost 13 out of 93, and we have lost 17 out of only 32. New York has lost 5 out of 10, and Philadelphia, 2 out of 7. The balance of the country lost 10 out of 15, under 14 operators in 11 localities. (Harris, RP. 13 August 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Regarding the British experience, Harris noted

> Playfair has turned a somersault on the Cesarean question. One English success under Champneys has had more effect in the London Obstetrical Society, than the 79 successes of Germany could effect. Champneys tied the Fallopian tubes to produce sterility—Playfair led off, with crediting him with initiating the method, and several others followed suit in the same vein. No one knew enough to correct their ignorance. Another sage opinion was to the effect, that suturing the uterus with silver-wire also produced sterility. This was also uncorrected, as no one appeared to know to the contrary. . . . Wise men—these discussionists—I set Lungren after them. It is singular what claims to knowledge men make, when they are only guessing. (Harris, RP. 13 August 1889 [Letter to H.A. Kelly]. Located in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions)

Perspective

In Baltimore, Kelly led an active department, and published a number of seminal works that helped to establish gynecology as an academic

discipline.[58] As has been noted by others, establishment of the Johns Hopkins School of Medicine set a new standard for professional education within a research-centered environment. The Hopkins emphasis upon the advancement of knowledge, in addition to the transmission of learning, was unique in American medical education.[59] Of interest, each of the other three members of the Hopkins "Big Four" (William Henry Welch,[60] William Stewart Halsted,[61] and William Osler [62]) also had spent considerable time visiting and working in major European medical centers, as had the Professor of Obstetrics John Whitridge Williams,[63] and other faculty. It is interesting to speculate on the role of these European trips, such as that of Kelly and others, in the genesis of the American Gynecological Club,[64] the Society of Clinical Surgeons,[65] and similar traveling groups in the early twentieth century.

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[58]H.A. Kelly. *Operative Gynecology.* 2 vols. New York: D. Appleton & Co., 1898.
H.A. Kelly. *Medical Gynecology* . . . New York: D. Appleton & Co., 1908.
H.A. Kelly. *Cyclopedia of American Medical Biography.* Philadelphia and London: W.B. Saunders Co., 1912.
H.A. Kelly. *Gynecology.* New York: D. Appleton, 1928.
H.A. Kelly and F.R. Burnham. *Diseases of the Kidney, Ureters, and Bladder, with Special Reference to the Diseases of Woman.* New York: D. Appleton, 1914.
H.A. Kelly and W.L. Burrage. *American Medical Biographies.* Baltimore: The Norman Remington Co., 1920.
H.A. Kelly and W.L. Burrage. *Dictionary of American Medical Biography* . . . New York: D. Appleton & Co., 1928.
H.A. Kelly and T.S. Cullen. *Myomata of the Uterus.* Philadelphia: W.B. Saunders, 1909.
H.A. Kelly and E. Hurdon. *The Vermiform Appendix and its Diseases.* Philadelphia: W.B. Saunders, 1905.
H.A. Kelly and C.P. Noble. *Gynecology and Abdominal Surgery.* 2 vols. Philadelphia: W.B. Saunders & Co., 1907–1908.
H.A. Kelly and G.E. Ward. *Electrosurgery.* Philadelphia: W.B. Saunders, 1932.
[59]R.H. Shryock. *The Unique Influence of the Johns Hopkins University on American Medicine.* Copenhagen: Munksgaard, 1953.
[60]V.O. Freeburg. *William Henry Welch at Eighty.* New York: Milbank Memorial Fund, 1930.
[61]W.G. MacCallum. *William Stewart Halsted, Surgeon.* Baltimore, MD: Johns Hopkins Press, 1930.
[62]*Loc. cit.* note 6.
[63]L.D. Longo. John Whitridge Williams and academic obstetrics in America. *Trans. and Studies, College of Physicians,* Philadelphia, Ser. 5, 3:221–254, 1981.
[64]M.W. Eby and L.D. Longo. Furthering the profession: the early years of the American Gynecological Club and its first European tours. *Obstet. Gynecol.* 99:308–315, 2002.
[65]H.B. Shumacker, Jr. *History of the Society of Clinical Surgery.* Indianapolis, IN: Benham Press, 1977.

Over the ensuing years Kelly's fame as a gynecologic surgeon, pioneer in female urology, natural scientist, and medical biographer, grew to legendary status.[1–12] Numerous accounts of Kelly's prowess as a surgeon abound. For instance, when the American Medical Association met in Baltimore in 1895, a group of about two hundred surgeons from around the country were amazed at Kelly's operating skill. One spectator described its impact on the noted Professor of Surgery at Rush Medical College in Chicago, Nicholas Senn (1844–1908): "Do you know what his expression reminded me of?" he asked. "The surprise that might have been seen on the face of an American Indian at the approach of civilization."[66] In 1909, Kelly fulfilled his desire to publish illustrations of gynecologic procedures in four volumes of stereo-clinics: for removal of the vermiform appendix, repair of the relaxed vaginal outlet, abdominal hysterectomy, and uterine suspension.[67] In his introduction to the stereo-clinic on uterine suspension, Kelly spoke of the necessity of properly illustrating surgical procedures, the remarkable plaster casts he had seen in Edinburgh prepared by D. Berry Hart, and his desire to allow each observer to see exactly what he the surgeon saw.[67]

Following his several European *wanderjahrs,* Howard A. Kelly went on to fame and fortune as one of the world's leading gynecologic and urologic surgeons. In contrast, Robert P. Harris has remained in relative obscurity.[68] Considered overall, the Kelly-Harris correspondence may serve as a case study to illustrate the development of Kelly's ideal as to what a proper *Frauenklinik* should be, which played such an important role in his academic career, and the development of gynecology and urology in America.

Acknowledgment. The Kelly-Harris letters, none of which have been published, are the original letters received by Harris. They are in the Alan Mason Chesney Medical Archives of the Johns Hopkins Medical Institutions, 2024 E. Monument Street, Baltimore, MD, 21205-2223. I thank my administrative assistant Brenda Kreutzer for help in preparing the manuscript.

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[66]F.H. Martin. *Fifty Years of Medicine and Surgery. An Autobiographical Sketch.* Chicago, IL: The Surgical Publishing Co. of Chicago, 1934, pp. 232–234.
[67]*Loc. cit.* note 49.
[68]*Loc. cit.* note 16.

A Temperate History of Emergency Care: From a Necessary Evil to a Community Obligation

Aaron Barber, M.D.

Introduction

Popularized in the media and known first hand through 100 million visits to 5,000 emergency departments every year, emergency care today is the conflicted product of multiple histories, assuming different meanings depending on one's position as a television viewer, waiting room victim, or medical professional. Many professional, legal, and institutional events combined to form modern emergency care, shaped by charitable intent, progressive reform and economic liberalism. The goal of this paper is to examine these historical factors in order to understand the perception of emergency care as both a necessary evil and a community obligation.

Emergency care assumes different meanings in different contexts. It may be taken to mean medical evaluation and treatment for an emergency medical condition, defined by the federal government as:

> A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in placing the patient's health in serious jeopardy, serious impairment to bodily functions, or serious dysfunction of any bodily organ or part.[1]

Relying only on the definition above, however, seems to put the cart before the horse, as emergency care is often sought and rendered before the definite existence of such an emergency medical condition is known. Such care may reveal a condition that can retrospectively be called non-urgent or urgent, rather than emergent, but only

[1] 42 U.S.C. §1395dd(e)(1).

third-party insurers would deny that emergency care was involved in the process.[2] With this in mind, care-givers and prudent laypersons have broadened the sense of emergency care:

> The clinical practice of emergency medicine encompasses the initial evaluation, treatment, and disposition of any person at any time for any symptom, event, or disorder deemed by the person—or someone acting on his or her behalf—to require expeditious medical, surgical, or psychiatric attention.[3]

As a further consideration of the sense that emergency care should be appreciated, it must be remembered that emergency care is the only nation-wide medical care in this country that is available to all. This fosters a desperate characteristic of emergency care, and explains the disproportionately high numbers of minorities and the poor who seek emergency care. It may, in truth, be seen as a last resort rather than a first response. "[E]mergency physicians have, in the United States, been given the social role and responsibility to act as health care providers of last resort for patients who have no other ready access to health care."[4]

The above meanings of emergency care avoid assigning a definition based on location. Although emergency care could reasonably be denoted as care rendered in emergency rooms, relying on such a definition eliminates consideration of the treatment supplied by ambulances, and makes it difficult to consider the history of emergency care prior to the last 40 years, when emergency care was given in wards labeled receiving, admitting, surgical, male, or female. It is true that these wards would eventually be called the emergency department. The nation's first hospital, Pennsylvania Hospital, began referring to its receiving ward as the emergency department as early as 1942, although the term "department" was used to refer to a distinct budgetary consideration, rather than a distinct political entity with a dedicated physician staff.[5] The latter conception of an emer-

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[2]"The Centers for Disease Control and Prevention classified only 9 percent of emergency department visits as nonurgent in 1998. A nonurgent visit is classified as a patient who needs treatment between 2 and 24 hours, semiurgent (between 1 and 2 hours), urgent (15–60 minutes) and emergent (less than 15 minutes)." [http://www.acep.org/1,2893,0.html].

[3]American College of Emergency Physicians, *Model of the Clinical Practice of Emergency Medicine* (2000).

[4]American College of Emergency Physicians, *Code of Ethics for Emergency Physicians* (2001).

[5]Pennsylvania Hospital Managers' Minutes (1942).

gency room did not receive widespread recognition until the 1960s. At this time, the American College of Surgeons called for a new model for the emergency department, and prefaced its proposal with the following:

> The public has come to look upon the emergency department as the community medical center where any may apply, with any complaint, at any hour of the day or night, and expect prompt and courteous attention as his due. *This concept must be accepted as a community obligation by governing boards, hospital administrators, and the profession.*[6]

While the prudent layperson offers an adequate operational definition of emergency care, the ACEP metaphor of emergency care as a "safety net" more fully captures the idea of emergency care as treatment of first and last resort, cast as a community obligation by disparate charitable and economic interests.[7] At the risk of offering an overly homiletic sense of emergency care, its history will be explored with these broad, socially oriented contexts in mind.

Hospital Organization and Efficiency

Towards the end of the 19th century, hospitals began to change from public almshouses and privately endowed charities into corporate centers for medical care, transformed from a place of last recourse for the most disenfranchised of patrons to "the most visible embodiment of medical care . . ."[8] Moving from a model of caretaking and moral education to one of medical treatment, productivity, and efficiency, the hospitals' development reflected the early 20th century's drive towards industrialization. This change was further influenced by urbanization, scientific advances, and medical professionalization and specialization.[9]

As hospitals became the center of medical care in general, the treatment of medical emergencies moved out of the house and into the hospital. Faced with increasing population density and concern

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[6]Committee on Trauma, American College of Surgeons, *A Model of a Hospital Emergency Department,* 1 (1962).
[7]American College of Emergency Physicians, *Defending America's Safety Net* (1999).
[8]Paul Starr, *The Social Transformation of American Medicine,* 145–46 (1982).
[9]*Ibid.,* 146.

for public health, New York City became the first urban center to respond to these challenges with an ambulance service. Inaugurated in 1869, Bellevue's ambulance service was created by the Metropolitan Board of Health. The board's Commissioners of Public Charities and Correction asked Dr. Edward B. Dalton to design the ambulance service, taking advantage of his Civil War experience. While serving in the Union army, Dr. Dalton had "organized and directed a highly efficient ambulance service to transport thousands of wounded and sick army personnel to the Depot Field Hospital of the Army of the Potomac."[10] Two ambulances were commissioned and duly outfitted:

> [B]eneath the driver's seat "a box . . . containing a quart flask of brandy, two tourniquets, a half-dozen bandages, a half-dozen small sponges, some splint material, pieces of old blankets for padding, strips of various lengths with buckles, and a two-ounce vial of persulphate of iron (an astringent used to stop bleeding)."[11]

While a concern for public health created the country's first ambulance service, a concern for efficiency was at the core of the growth and reorganization of hospitals. The revolution taking place in surgery at the turn of the century fueled this concern, as the increase in surgical success, procedures, and complexity depended on such efficient restructuring:

> By the turn of the twentieth century surgeons were regarded as having surpassed their more dignified and traditional physician-colleagues in other medical fields and found themselves at the center of a rapidly changing world of medical practice. They reigned supreme in the new medical universe but no longer only on account of their skill and courage. Surgeons were central for a changing medical world in part due to new medical ideas, in part due to new operations, and in part due to a new hospital structure within which they could work, a structure that was centered on Taylorism and the efficiency movement and the search for one true answer.[12]

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[10]Morton Galdston, M.D., *Ambulance Notes of a Bellevue Hospital Intern: May 1938,* 76(4) J Urban Health 510 (1999).

[11]R. Carlisle, *An Account of Bellevue Hospital with a Catalogue of the Medical and Surgical Staff from 1736 to 1894,* Reprint, 65 (1986), taken from Galdston, 511.

[12]Joel D. Howell, *Technology in the Hospital, Transforming Patient Care in the Early Twentieth Century,* 57 (1996).

This movement towards efficiency in the early twentieth century is reflected in the records of Pennsylvania Hospital. As expressed by the Board of Managers:

> Some years ago the Managers of this Hospital came to the conviction that before long the requirements of modern surgery must be met with better facilities than those afforded by the existing buildings. They then began to take counsel as to what measures would be the best to keep their trust up to the times in these particulars, and to put the Hospital, if possible, in the very vanguard of progress.[13]

Their capital improvements at this time, designed primarily to improve surgical facilities, facilitated the triage and treatment of emergencies within the Walter Garrett Memorial Building[14]. Although Pennsylvania's Receiving Ward of 1900 arose in large part out of concern for the needs of surgery rather than emergency care per se, its self-conscious concern for efficiency reflects characteristics common to modern emergency rooms. Concern with ambulance and police reception, a space for quickly sorting injured patients into groups based on their need for or likely benefit from immediate medical treatment, and treatment capabilities specific to common emergency cases, such as exposure, parasitic invasion, and intoxication, are all addressed by the hospital managers' careful rhetoric.[15]

The common receiving ward case at Pennsylvania Hospital in 1897 was thematically similar to the emergency room cases of today. Patients who were discharged from the receiving ward were likely to be from poorer immigrant groups. Alcohol and minor trauma were common problems. Of the 11,209 patients treated and released from the receiving ward in that year, 1,113 arrived by ambulance (of which there were two), and 1,270 arrived via police assistance.[16] The police enjoyed a more extensive communications infrastructure than the hospital ambulance service and brought as many patients to the hospital as the ambulances through the 1920s. Nearly 20% of these cases were lacerations, while 100 patients were denoted to be treated primarily for alcohol intoxication.[17]

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[13]Pennsylvania Hospital Annual Report, 17 (1897).
[14]Pennsylvania Hospital Annual Report, 18–9 (1897).
[15]**Triage** *n.* A process for sorting injured people into groups based on their need for medical treatment; *Webster's II New Riverside Dictionary,* 719 (Rev. Ed. 1996).
[16]Pennsylvania Hospital Annual Report, 24 (1897).
[17]*Ibid.,* 54.

The treatment of these patients through the late 1950s was administered primarily by nurses and interns.[18] With hospital reorganization firmly coupling medical education with hospital experience, post-graduate education became marked by a hospital apprenticeship. In 1900, Pennsylvania Hospital had 7 such interns, doubling to 14 by 1920. Its receiving ward census over the same time period grew from 23,253 to 30,179 per year.[19] The prominent role of nurses and interns in the care of receiving ward cases is indicated by the conspicuous absence of medical staff attached to this ward. Pennsylvania Hospital's annual reports prominently list (bold and center-justified) the medical staff members for every department. This included departments that were denoted more by space and function than by specialty, such as the out-patient department (which had been re-established in 1872).[20] Yet the space reserved for emergency care, although referred to as the "emergency department" by 1942, had no medical staff mentioned in annual reports for the first half of the 20th century.[21] Emergency care was beholden to the specialty of surgery and the drive for efficiency for both its space and name (as receiving wards became "accident" wards). As a by-product, it needed no separate staff. The subordinate characteristics of its origins would retard its later political empowerment.

By 1921, the receiving ward at Pennsylvania Hospital was referred to as the "accident" ward, the surgical connotation mentioned above. The average census (treated and released) was 68 patients per day. By this time the costs associated with emergency care were beginning to receive more consideration in the manager's reports, coincident with the continued reorganization of the hospital along business lines and the rise of cost accounting.[22] Salaries and wages were $1,628 for 1921, supplies came to $68, ambulance labor $1,516, and ambulance supplies $1,547. The hospital's total expenses for 1921 were $540,000. The accident ward's listed costs, in 2002 dollars, would be $17,131.[23] The yearly cost of an emergency room today (treating a similar number of people) is about five million dollars, though this remains, as in 1921, approximately 1% of

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[18]American College of Emergency Physicians, *Medicine's Front Line,* 2 (2001).
[19]Pennsylvania Hospital Annual Report (1921).
[20]Pennsylvania Hospital Annual Report, 25 (1897).
[21]Pennsylvania Hospital Annual Report (1942).
[22]Joel D. Howell, *Technology in the Hospital, Transforming Patient Care in the Early Twentieth Century,* 33–40 (1996).
[23]http://www.cjr.org/resources/inflater.asp.

total hospital operating costs.[24] Although the numbers seem to imply that emergency care costs, as a percentage of total hospital costs, are as much now as 80 years ago, accurate comparisons are compromised due to the difficulty and variability in determining the price of modern emergency care.[25]

The census continued to rise, and the attention given the budget and the increasing numbers of people treated in the accident ward reported in the hospital's Annual Reports reflect emergency care's increasing importance. In 1897, the contingent nature of the emergency services within Pennsylvania Hospital can be inferred from the description of the East Pavilion/receiving ward of the Garrett Memorial Building (see Appendix A). Language in these passages describing the use of the facilities to put patients in a "proper condition" and on patients being "prepared" rather than treated emphasizes its subordination to the needs of the operating room and "main" wards. By the 1920s, the accident ward's vital statistics became more prominent as noted above. In 1924, the Managers note that the accident ward was "treating" a new patient every 14.5 minutes.[26] Representing an annual census of 34,248 in this manner emphasizes the "24/7" nature of emergency care, and substituting treatment for preparation reinforces its nature as a primary patient care space rather than an annex where, as described in 1897 "a sufficient number of beds are provided to receive all who may be admitted between sunset and morning; so that the quiet of the main wards may never be disturbed by the entrance of new patients during the night . . ."[27]

Also by 1924, Bellevue Hospital's ambulance service, the country's first, had been completely motorized.[28] Armed with brandy and handcuffs in its early years (reflecting the predominant theme of ambulance calls—injured and intoxicated), the ambulance service had been integrated into physician training for interns from the turn

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[24]The 2002 University of Pennsylvania Health Services Budget was 1.6 billion dollars (http://www.upenn.edu/almanac/v48/n29/Budget2K2.html), and includes costs for several hospitals, including Pennsylvania Hospital (the figures above assumes as a conservative estimate that the University of Pennsylvania budget covers costs for 100,000 ER visits).

[25]R.M. Williams, *The Costs of Visits to Emergency Departments,* 334 NEJM 642–646 (1996).

[26]Pennsylvania Hospital Annual Report (1924).

[27]Pennsylvania Hospital Annual Report 18–9 (1897).

[28]Morton Galdston, M.D., *Ambulance Notes of a Bellevue Hospital Intern: May 1938,* 76(4) J Urban Health 511 (1999).

of the century until 1941.[29] The notes from one such intern's experiences reflect the period's focus on efficiency:

> On returning to the hospital from a late night call, the efficient and often motherly nurses in the admitting room generally would offer us a light snack of toast and jam and milk, tea, or coffee prepared from the hospital supply. We could rest, fully dressed, between calls in a room adjacent to the ambulance call-receiving office. A ward attendant would come to the door to tell us when the next call had arrived. We would pull ourselves together hurriedly to meet the waiting ambulance in the nearby courtyard.

World War II brought the interns out of the ambulance in favor of Red Cross trained ambulance attendants.[30] The war provided the impetus for effective triage and trauma protocols, evidenced by Pennsylvania's Hospital's war effort. By this time, the accident ward was referred to as the "Emergency Department" (although the name was a misnomer in the sense that, unlike other hospital departments, it was without a medical staff). The hospital Managers looked to the eminent surgeon Dr. Lee to develop triage and trauma protocols for the "reception, treatment and disposition of disaster casualties for the war period . . ." An "officer of the day" (M.D.) would be responsible for mobilizing an on-call team to respond to emergencies in the following categories:

Category	Condition	Disposition
Trivial		Ambulatory Ward
Non-Operative	Need Hospitalization	Wards
Operative	No Shock	Operating Room
Operative	Shock	Shock Unit
Women & Children		Women & Children's Bldg.
Burns		Shock Unit
Blast, Crash, Gas, Diabetics		Medical Ward

[29] *Ibid.*, 518.
[30] *Ibid.*, 512.

By this time the emergency department had a census of close to 40,000 patients per year and the Managers note the assurance of Dr. Lee that Pennsylvania Hospital was prepared for any catastrophe.[31]

Despite these efforts in trauma care, emergency care in general was beginning to be perceived by some as a second-rate service provided to a disenfranchised population, as expressed by James Mills, M.D., who left his private practice in 1962 to work in the emergency room:

> At the close of the 1940s, physicians and other hospital professionals and trustees could no longer deny that care in emergency rooms was less than uniformly acceptable. Emergency rooms or accident wards were in neglected hospital areas, often located between the boiler room and the laundry . . .
>
> Staffing was by nurses. Depending on local conditions, the emergency room may have been locked by the nursing supervisor, who kept the key. The nurse in charge summoned house officers or back-up medical staff members as needed. In large medical centers, the accident wards occupied amazingly small areas with obscure entries. They were avoided by experienced house officers, which left staffing to junior physicians in training, often with little or no supervision.
>
> The diagnostic and treatment pattern was to make an initial assessment, which might simply mean determining the appropriate specialty for triage, and then calling a suitable resident. When a patient had multiple injuries, a representative of each surgical subspecialty who might have an interest or be able to help would be called. This resulted in a convergence of many individuals, each bringing his own skill and well-honed ego. Turbulence and confusion often ensued.[32]

Dr. Mills would be instrumental in forming the specialty of emergency medicine, bringing his military and organizational experience to bear on the hospital's and the community's conflicting perceptions of emergency care. For the "hospital professionals" noted above, emergency rooms "seemed to be a necessary evil, existing because of the undeniable need to serve the unfortunate, the unwashed, and the unscheduled."[33] Dr. Mills, however, believed the public

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[31]Pennsylvania Hospital Annual Report (1942).
[32]James D. Mills, M.D., *Emergency Medicine 1947–1987; A PGM Retrospective,* 81(3) Postgrad Med 81 (1987).
[33]*Ibid.,* 82.

shared a different view of emergency care: "The public has come to look upon the emergency department as the community medical center where any may apply with any complaint, at any hour of the day or night, and expect prompt and courteous attention his due."[34]

Doctor-Patient Relationship

An examination of the hospital as a charitable institution and the nature of the doctor-patient relationship provides grounds for the perception of emergency care as both a "necessary evil" and "a community medical center," beyond the rhetoric of Dr. Mills (and the American College of Surgeons—see below). As noted above, hospitals were born of public poorhouses and private charitable effort. Re-organized, streamlined, and Taylorized through the 1920s, the hospital institution held tightly to its conception as a charitable endeavor in providing relief for the needy, however business-like. Even today, the mission statement of Pennsylvania Hospital includes the responsibility to "[e]nsure access to superior quality integrated health care for our community and expand access for underserved populations within the community."[35] Satisfying the public's (and the Internal Revenue Service's) perception of the hospital as a charity while "they developed into market institutions, financed increasingly out of payments from patients," created the dichotomous nature of the emergency room as both a "necessary evil" and a universally accessible "community medical center."[36]

The history of the doctor-patient relationship provides further insight into this dichotomy. Central to this contractual relationship, from English common law roots, is the idea that a doctor treats a patient voluntarily. "First, it was made clear that physicians had *no legal obligation* to answer emergency calls or to stop at the scene of what could be called an accident. This rule was fully accepted as a part of general law wherein no 'obligations of rescue' were imposed

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[34]James D. Mills, M.D., *A Method of Staffing a Community Hospital Emergency Department,* 90 Va Med Monthly 518, (1963), from Richard F. Edlich, M.D., *Three Giant Steps Toward the Development of a Modern Emergency Medical System,* 9 J Emerg Med 62 (1991). Although attributed to Dr. Mills, this quote appears earlier in The Committee on Trauma, American College of Surgeons, *A Model of a Hospital Emergency Department,* 1 (1962).

[35]http://pennhealth.com/pahosp/about_pahosp/mission_values/mission.html.

[36]Paul Starr, *The Social Transformation of American Medicine,* 146 (1982).

upon any person in England."[37] By the end of World War II, American common law pertaining to the doctor-patient relationship in the context of emergency care elaborated on its voluntary and contractual components. It emphasized that "[t]here is no legal obligation upon physicians to answer or to treat emergencies." If "voluntary aid" was initiated, the physician was then required to continue reasonable and "ordinary" treatment necessary to at least "stabilize" the patient, with the patient's implied consent, regardless of payment.[38] The prohibition against patient abandonment has well-established roots in the implicit contractual nature of the doctor-patient legal relationship. The postwar period saw articles warning physicians of the legal dangers of rendering emergency care, advocating a ride in the ambulance with the accident victim in order to avoid an accusation of abandonment. This fearful advice extended to emergency care given in the hospital: "Furthermore, physicians were reluctant in these years to offer to serve in hospital accident wards or emergency rooms because these articles also warned against law suits in hospital emergency services."[39] Given the option to treat at the physician's discretion, the burden of reasonable and ordinary care, and the perceived threat of abandonment liability, it is not surprising that emergency care was in the dire straits characterized by Dr. Mills. In the 1960s, an AMA survey "reported that 50 percent of the physicians queried stated they would refuse to offer aid to an injured stranger, citing as the primary reason the fear of legal involvement."[40] In 1958, faced with a moral obligation to aid those in need, a legal tradition absolving one of any such obligation (towards "strangers"), and a strong professional desire to maintain the right to voluntarily enter into a treatment relationship, the AMA issued a somewhat contradictory ethical guideline to the necessary evil of emergency care:

> A physician is free to choose whom he will serve. He should, however, respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, the physician should not neglect the patient, nor should he withdraw from the case without giving notice to the patient, his relatives or his respon-

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[37]William J. Curran, J.D., *Legal History of Emergency Medicine From Medieval Common Law to the AIDS Epidemic,* 15(7) Am J Emerg Med 659 (1997).
[38]*Ibid.,* 661.
[39]*Ibid.*
[40]Neil L. Chayet, LL.B., *Legal Implications of Emergency Care,* xiv (1969).

> sible friends sufficiently long in advance of his withdrawal to allow them to secure another medical attendant.[41]

Distinguishing an ethical duty from an enforceable contractual duty continues to be a hallmark of the AMA's suggestions for emergency care today: "Physicians are free to choose whom they will serve. The physician should, however, respond to the best of his or her ability in cases of emergency where first aid treatment is essential."[42]

American College of Surgeons' Emergency Department Model

TPO (temperate public opinion), however, was beginning to expect the service. The idea of the emergency room as a 24-hour community medical center open to all was advocated by the American College of Surgeons. In their 1962 *Model of a Hospital Emergency Department*, the ACS acknowledged "[t]hat existing emergency departments usually constitute the weakest and most neglected link in the chain of hospital care is beyond doubt."[43] In offering a blueprint for change (see cover), the ACS hoped to address the "Modern Trends Affecting Emergency Department Function":

1. Many more patients are treated in American emergency departments than are admitted to hospitals. Two million patients were seen in these units in New York City in 1960. Projected nationally this dramatic figure in utilization attests that these facilities are among the most potent public relations instruments available to the medical profession. *The emergency department must be planned with this in mind.*
2. Less than half these cases are true emergencies; more than half are medical, pediatric, and obstetric problems. Surgeons still man the emergency department even though less than forty per cent of all cases are surgical or traumatic in nature.

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[41]American Medical Association; Judicial Council, *Principles of Medical Ethics; Opinions and Reports of the Judicial Council*, 24 (1958).
[42]American Medical Association; Council on Ethical and Judicial Affairs, *Code of Medical Ethics*, 139 (1998).
[43]The Committee on Trauma, American College of Surgeons, *A Model of a Hospital Emergency Department*, 1 (1962).

The emergency department must become the combined responsibility of all branches of the hospital staff.

3. Emergency department patients now come from all walks of life. *Charges must be reappraised accordingly.*
4. Every patient must be examined prior to treatment. Triage (sorting) can no longer be relegated to an inexperienced house officer. *It must be carried out promptly, under competent auspices, and with adequate facilities.*
5. The public has come to look upon the emergency department as the community medical center where any may apply, with any complaint, at any hour of the day or night, and expect prompt and courteous attention as his due. *This concept must be accepted as a community obligation by governing boards, hospital administrators, and the profession.*[44]

The ACS's call to attract the paying middle class was a time-honored business stratagem. From the turn of the century, Pennsylvania Hospital noted the importance of catering to the "middle class" with more private rooms.[45] Similarly, the ACS's emergency room plan (see cover), offering detailed suggestions on layout, function, and materials, recommends large private rooms in the emergency room complete with windows (of "frosted glass" in the surgery suite). The importance of this source of revenue at a time when most emergency rooms were losing money is made plain with recommendation number three.[46]

The ACS asks the medical staff and hospital to meet the public's expectations in expanding the notion of emergency care to one of universal entitlement, though plea number two can be read as shifting rather than sharing the burden. Although it calls for more experienced staff to provide emergency care, it acknowledges that "[p]robably the majority of emergency departments at present are manned by practicing physicians on rotation" and recommends provisions for continuing primary emergency room care by "interns and residents."[47]

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[44]*Ibid.*

[45]Pennsylvania Hospital Annual Report, 43 (1925).

[46]James D. Mills, M.D., *Emergency Medicine 1947–1987; A PGM Retrospective,* 81(3) Postgrad Med 81 (1987).

[47]The Committee on Trauma, American College of Surgeons, *A Model of a Hospital Emergency Department,* 11 (1962).

Temperate Public Opinion: Internal Revenue Service

By this time, the large corporate hospitals bore little resemblance to the almshouses and private charitable hospitals of the 1800s. Income was derived mostly from patient/insurance payments rather than public and private handouts. The very idea of a charitable organization underwent a transformation as hospitals became corporations, yet depended financially on their charitable status for donations and tax-exemption. To resolve this problem, the Internal Revenue Service adjusted the definition of charity, allowing a hospital to maintain its charitable status (a "non-profit" organization under Section 501(c)(3) of the tax code) so long as it provided a health care benefit to the entire community without inurement to private benefit. This had a direct impact on the provision of emergency care by non-profit hospitals. Formulated under a Revenue Ruling of 1969 (following the Medicare/Medicaid entitlements which had cast doubt on the validity of posing as a charitable organization if the charitable services are paid for by the government), the new guidelines expanded on a ruling from 1956:

> Advice has been requested concerning the criteria or tests to be met in determining whether a hospital can qualify for exemption from income tax as a public charitable organization . . . It must be operated to the extent of its financial ability for those not able to pay for the services rendered and not exclusively for those who are able and expected to pay . . . It must not, however, refuse to accept patients in need of hospital care who cannot pay for such services.[48]

This was taken to mean that a non-profit hospital must maintain an emergency room open to all, as stated in the subsequent 1969 ruling:

> Advice has been requested whether the two nonprofit hospitals described below qualify for exemption from Federal income tax under section 501(c)(3) of the Internal Revenue Code of 1954 . . . Situation 1. Hospital A is a 250-bed community hospital . . . The hospital operates a full time emergency room and no one requiring emergency care is denied treatment . . . Situation 2. Hospital B is a 60-bed general hospital . . . The hospital maintains an emergency room, but on a relatively inactive basis, and primarily for the convenience of the patients of the staff

[48]IRS Revenue Ruling 56-185 (1956).

> doctors. The local ambulance services have been instructed by the hospital to take emergency cases to other hospitals in the area . . . Accordingly, it is held that Hospital A is exempt from Federal income tax . . . it is held that Hospital B does not qualify for exemption from Federal income tax under section 501(c)(3) of the Code.[49]

Although there were other deciding factors in the examples listed above, this ruling was broadly interpreted as "a requirement that all charitable, tax-exempt, community general hospitals establish and operate a 24-hour emergency service open to the entire community regardless of ability to pay."[50]

The 23rd Specialty

While the IRS's temperate opinion weighed on such community hospitals, political machinations were underway to form a medical specialty devoted to emergency care. From Pennsylvania Hospital's receiving ward clerk to Bellevue Hospital's admitting ward nursing supervisor in the early 1900s, emergency care by the 1960s was being delivered by interns, residents, and "reluctant" medical staff serving on rotating emergency room duty.[51] In response, Dr. Mills, noted above, became the first "full-time" emergency department physician with three of his colleagues in Alexandria, Virginia, after giving up his private medical practice in 1962.[52] In 1968, a group of eight Michigan physicians "expressing our genuine displeasure and frustration over the fact that no one seemed to care how poorly patients who needed emergency care were treated" incorporated the American College of Emergency Physicians.[53] Unifying the physicians from the "Virginia Plan" and the "Pontiac Plan" later that year, ACEP's initial goal was educational. It was "bombarded with membership applica-

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[49]IRS Revenue Ruling 69-545 (1969).
[50]William J. Curran, J.D., *Legal History of Emergency Medicine From Medieval Common Law to the AIDS Epidemic,* 15(7) Am J Emerg Med 664 (1997).
[51]Ron Krome, M.D., *Twenty-five Years of Evolution and Revolution: How the Specialty Has Changed,* 30(5) Ann Emerg Med 689 (1997).
[52]Richard F. Edlich, M.D., *Three Giant Steps Toward the Development of a Modern Emergency Medical System,* 9 J Emerg Med 62 (1991).
[53]John Wiegenstein, M.D., *What, Another Milestone? The First Steps in the Founding of a Specialty,* 30(3) Ann Emerg Med 329–30 (1997).

tions," however, after the *Medical World News* stated that "ACEP was founded to 'get a better deal with hospitals.' "[54]

The struggle for specialty recognition advanced in 1970 with the formation of the nation's first residency in emergency medicine at the University of Cincinnati Medical Center.[55] In 1975, a permanent AMA Section Council of Emergency Medicine was approved, extending ACEP's influence. "In 1976, ACEP formed the American Board of Emergency Medicine," presenting its application for specialty board recognition to the American Board of Medical Specialties in Chicago, 1978.[56] The ABMS turned down the ABEM application by a vote of 100 to 5, with Dr. John Wiegenstein (one of the eight ACEP founders) later commenting:[57]

> The specialty societies that earlier opposed us and whom we had successfully outmaneuvered at AMA were not about to approve our board in the council where they held court. The board of surgery publicly claimed that emergency medicine was not an identifiable specialty discipline and that we emergency physicians claimed specialty status merely on the basis of our special site of practice. Privately they expressed the fear that once approved, we would invade their territory by taking emergency patients to the operating room. The pediatric and internal medicine boards expressed concerns that once emergency medicine was recognized as a primary board we would close the EDs as training ground for their residents.[58]

The resistance to the proposal of emergency medicine as a unique medical specialty, an academic construct in the sense described by Flexner, was openly voiced.[59] Comments during this time from a "very senior" surgeon in Chicago's medical bureaus reflect the anxiety attending changing emergency care conceptions: "Doesn't the emergency department just do triage? Aren't you just talking about

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[54]*Ibid.*, 330.

[55]http://www.uc.edu/emermed/organization.asp?sec=3.

[56]John Wiegenstein, M.D., *What, Another Milestone? The First Steps in the Founding of a Specialty,* 30(3) Ann Emerg Med 331 (1997).

[57]David Wagner, M.D., *Happy Anniversary, ABEM!,* 7(1) Acad Emerg Med 67 (2000).

[58]John Wiegenstein, M.D., *What, Another Milestone? The First Steps in the Founding of a Specialty,* 30(3) Ann Emerg Med (1997).

[59]A. Flexner, *Medical Education in the US and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching,* (1910), from http://www.saem.org/publicat/chap1.htm.

emergency department directors? You don't mean you work 11 pm to 7 am? You don't mean a full-time job, do you?"[60]

ABEM's defeat became less severe with ABMS's offer of conjoint board recognition, which would place representatives of other specialties with veto power on the ABEM board. A provisional acceptance of this offer, with input from seven other specialties on the conjoint board, resulted in a proposed period of specialty training in emergency medicine of over ten years. This impractical suggestion resulted in the conjoint members relinquishing their veto rights, a compromise which, in 1979, resulted in the modified conjoint board of emergency medicine and the 23rd medical specialty.[61]

Emergency Medical Treatment and Active Labor Act

While being redefined by the pioneering efforts of emergency medicine's first specialists, emergency care was simultaneously profoundly influenced by local, state, and federal legislative efforts, as well as the advancement of medical technology. Nationwide ambulance systems, trauma, burn, and poison centers, and 911 began in the 1960s and '70s with the Highway Safety Act (1966) and the Emergency Medical Services Systems Act (1973), organizing emergency response and treatment from a community to a national level, and dramatically increasing emergency room patients and responsibilities. The inauguration of modern emergency care was marked as well by the onward march of medical technology, which transformed the treatment of heart attacks from bed rest (President Eisenhower, 1955) to coronary artery bypass grafting (Representative Cheney, 1988).[62]

In the early 1980s, as emergency room visits grew and the number of Americans without health insurance increased from 29 million to 35 million, with a concomitant decrease in reimbursement through the use of the diagnostic-related group reimbursement system and the rise of managed care organizations, hospitals came under

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[60]James D. Mills, M.D., *Emergency Medicine 1947–1987; A PGM Retrospective,* 81(3) Postgrad Med 85 (1987).

[61]John Wiegenstein, M.D., *What, Another Milestone? The First Steps in the Founding of a Specialty,* 30(3) Ann Emerg Med 331–2 (1997).

[62]William Kissick, M.D., *Medicine's Dilemmas,* 1 (1994), http://my.webmd.com/content/article/1728.74062.

increasing financial pressure.[63] Reports of hospitals refusing to treat patients without means of payment, and the resultant deaths, became widespread in the media and professional journals, prompting a House of Representatives subcommittee investigation, and resulting in the "Anti-Dumping Act."[64]

The Emergency Medical Treatment and Active Labor Act, or "Anti-Dumping Act," was established in 1986.[65] It responded to concern ". . . about the increasing number of reports that hospital emergency rooms are refusing to treat patients with emergency conditions if the patient does not have medical insurance."[66] Reports of over 250,000 patients transferred annually for economic reasons were cited.[67] The Act requires that any individual who comes to the emergency room be given an examination in order to find an emergency medical condition. If such a condition is found, it must be treated and stabilized. If this is beyond the capabilities of the institution, the patient must be transferred to a facility capable of rendering such treatment:

> The quality of American health care is unparalleled throughout the world and it should be the national policy for hospitals and free-standing emergency centers to provide high-quality emergency care to all patients without discrimination on the grounds of economic status, color, race, religion, sex, or national origin. (Rep. Michael Bilirakis, R-FL)[68]

> The purpose of this amendment is to send a clear signal to the hospital community, public and private alike, that all Americans, regardless of wealth or status, should know that a hospital will provide what services it can when they are truly in distress. (Sen. David Durenberger, R-MN)[69]

> We cannot allow a health care system as advanced as ours to provide emergency care only to those who can pay. This amend-

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[63]Mark M. Moy, *The EMTALA Answer Book,* xx (3d ed. 2001).
[64]*Ibid.,* xxi–xxiii.
[65]The Emergency Medical Treatment and Active Labor Act (EMTALA), Pub. L. No. 99-272, Title IX, Sec. 9121(b), 100 Stat. 164 (1986).
[66]H.R. Rep. No. 241, 99th Cong., 1st Sess., Part I, at 27 (1985), reprinted in 1986 U.S. Code Cong. & Admin. News 579, 605.
[67]David A. Hyman, *Lies, Damned Lies, and Narrative,* 73 Ind. L.J. 797, 863 n. 330 (1998).
[68]*Ibid.,* xxv
[69]*Ibid.*

> ment will ensure that hospitals live up to their fundamental responsibilities to the public. (Sen. Edward Kennedy, D-MA)[70]

In enacting EMTALA, the bipartisan representation reflected the temperate public's opinion that "[q]uality emergency care is a fundamental individual right and should be available to all who seek it."[71] It created "the most significant single piece of federal legislation in American history establishing broad legal obligations relating to medical care misconduct and failure to provide appropriate treatment."[72]

Conclusion

Through the 1990s, patient visits to America's emergency rooms increased by 35,000 every day.[73] These patients experienced emergency care as a last resort rather than a historical reflection. Emergency care, for most, is the only way to extract care from a patchwork health care system that restricts the right to health care to the elderly, the armed forces, the poorest of children, lepers, prisoners, and those with kidney disease. As in 1900, the disenfranchised have a disproportionately high reliance on emergency rooms today. In 1999, blacks frequented emergency rooms 71% more often than whites, and only 40% of emergency room patients provided private insurance, while 70% of the country's population was privately insured.[74]

It is important to parse the multiple histories and conflicting perceptions by which emergency care is known in order to improve its delivery in the future. Emergency care is a central actor within our health system. Providing treatment to over one hundred million people per year, emergency room visits account for approximately 40% of all hospital admissions in this country.[75] It is a conflicted

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[70]*Ibid.*, xix.

[71]American College of Emergency Physicians, *Mission Statement*, 2001.

[72]William J. Curran, J.D., *Legal History of Emergency Medicine From Medieval Common Law to the AIDS Epidemic*, 15(7) Am J Emerg Med 666 (1997).

[73]L.F. McCaig and C.W. Burt, *National Hospital Ambulatory Medical Care Survey: 1999 Emergency Department Summary.* Advance data from vital and health statistics; no. 320. Hyattsville, Maryland: National Center for Health Statistics, 2001.

[74]*Ibid.*

[75]American Hospital Association, *Emergency Departments—An Essential Access Point to Care*, 3(1) Trendwatch 1 (2001).

product of the hospital's evolution from a charitable to a corporate endeavor, the common law roots of the doctor-patient relationship, and our unique fondness for political liberalism seasoned with entitlements. Although emergency care is often portrayed as our health care safety net, responding to an increasingly urbanized, fractionated society, it is more useful and accurate to cast it as an institution formed from the competing professional, state, and public interests examined above. As such, it is a response to our urbanized, fractionated society, but less an unorganized and hasty safety net and more a deliberate instrument of social control. It is not simply the chance or jerry-built product of these historic events but a conscious endeavor to control social deviance in the form of injury or illness as well as to provide a buffer for tensions born of class differences. It is an object of deliberate planning (consider the 1962 proposal for an emergency room model, in which the ACS recognized the potential of wielding the emergency room as a public relations "instrument"). Such an interpretation of the pluralistic historical elements behind modern emergency care allows a context for informed substantive improvement. If the reader can be asked to suffer another metaphor, such an understanding frames emergency care as a social tool rather than a reflexive safety net. Put to deliberate use in the past by competing institutional and professional interests, it can be shaped in the future to realize the community obligation of a real (rather than rhetorical) "community medical center where any may apply, with any complaint, at any hour of the day or night, and expect prompt and courteous attention as his due."

A Twenty-First Century Perspective on the Ancient Art of Bloodletting

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"I should like to open one of my veins and gain eternal freedom for myself." (Goethe, The Sorrows of Young Werther*)*
"Blood is a wondrous juice." (Mephistopheles to Faust)

Human blood has been spilled upon the altar of religion, sacrificed upon the platform of war, and drained in quantity for the benefit of health. From Imhotep, physician and architect of the step pyramid at Sakkara (2980 B.C.), to William Osler, bloodletting has colored the path of healing, caused heated debate, and is an object lesson that allows today's learned physician to better appreciate our current reliance on the scientific method as the arbiter of new technologies.

As physicians strive to improve current practice, history shows that scientific progress is limited not only by specific empirical knowledge, but also by the historical current of the times. The history of bloodletting is a river of artifacts that flow from ancient times to the present. Understanding its pervasive use while some spoke out against the practice can lead us to the understanding that many current therapeutic practices may also be viewed as primitive in the future. Physicians of the twenty-first century may find it difficult to understand the rationale for bloodletting, yet it was the keystone of medical therapy used by physicians as learned and conscientious as those of today. The medical community should restrain criticism of its forebears, recognizing that therapeutic methods in vogue today may well appear quite absurd in the future.

Whenever a patient consulted a physician, in any era from the age of Pericles to the early twentieth century, bloodletting might have been prescribed. As scientists and physicians devised new therapies, these treatments took their place alongside the time-honored practice of balancing the body's humors through the application of

the lancet. The preferred method was by phlebotomy (venesection), but if a vein was not readily accessible other methods to induce bleeding such as cupping, leeching, scarification or, as a last resort, arteriotomy might be used. Other measures termed "heroic" included purging, emetics, blistering, enemas (clysters) and sweating.[1] Bloodletting was such a ubiquitous therapeutic modality that most physicians up to the twentieth century subscribed to its use. It was the most dramatic and impressive measure that could be taken for both the physician and his patient. It ultimately became the favored therapy for a wide variety of illnesses including inflammation, febrile diseases and even fractures, burns and wounds.

In ancient times bloodletting was used for religious, sacrificial and possibly even for erotic purposes. The Romans believed that drinking gladiator's blood would effect a cure for epilepsy,[2] and the monthly recurrence of vaginal bleeding was viewed as the natural means of extracting undesirable toxins and poisons from the female body.

Watson and Condie[3] published one of the most convincing rationales for bloodletting:

> The main object of bloodletting is to diminish the whole quantity of blood in the system, and thus to lessen the force of the heart action. The object of local bleeding is, in most instances, that of emptying the gorged and loaded capillaries of the inflamed part. Sometimes the blood is taken directly from the turgid vessels themselves; more often . . . topical bloodletting produces its effect by diverting the flow of blood from the affected part, and giving a new direction, and so indirectly relieving the inflammatory congestion.

Today bloodletting is employed for hemochromatosis, polycythemia vera, and porphyria cutanea tarda. In addition, it has been suggested that it might be of use in other disorders. For example, in victims of hepatitis C, the response to interferon therapy might be enhanced if their serum iron levels were reduced prior to treatment.[4] Also, when Kensey and his associates[5] produced a new type of instrument capable of more accurately measuring blood viscosity, they suggested that patients with elevated viscosity would do well to reduce it to normal by phlebotomy. Kensey, in his book, *The Blood Thinner Cure,* recommended that individuals donate blood every eight weeks to maintain health. In keeping with this observation, an editorial in JAMA[6] suggested that patients with coronary disease and elevated hematocrit might benefit from phlebotomy. It is interesting

to note that this approach is similar to the Burwinkle's 1922 paper,[7] which suggested that bloodletting would prevent arteriosclerosis and premature aging. The Edinburgh Artery Study[8] demonstrated a positive correlation between increased internal media thickness of the carotid arteries of men and women and the level of blood viscosity. They concluded that elevated blood viscosity could be a forerunner of the early stages of atherosclerosis. George Burch[9] stated that increased blood viscosity could be a precipitating influence in coronary insufficiency and ischemic heart disease, and suggested that phlebotomy "may be utilized advantageously to reduce the hematocrit to a mean normal level, that is about 45%."

Can we dismiss the possibility that some positive clinical effects were promoted by bloodletting, in view of its persistent use for the past 2000 years? Does it seem likely that adherence to its use could cloud the clinical acumen of distinguished physicians of the seventeenth to the twentieth centuries (including Cullen and Buchan of Edinburgh, Harvey, Sydenham and William Hunter of England, and Sir William Osler of Canada, the United States and England) so that their conclusions and clinical interpretations reflected "the urge to satisfy wishful thinking and to justify false hopes?"[10] Or was it lauded simply because there was no other therapy dramatic enough to fill the gap of patient and physician expectations?

James Wardrop,[11] a bloodletting enthusiast, observed that "whatever explanation can be given of the effects of bloodletting, there is no doubt of its beneficial effects in the treatment of disease." Lester King[12] in 1982 suggested "that venesection originally became established as a major therapeutic agent because it worked . . . at least often enough to induce confidence in its effectiveness. . . . In many conditions venesection had great value even according to modern concepts."

The ubiquity of bloodletting undoubtedly accounted for some "cures." However, beyond statistical probability, other possible explanations for the alleged beneficial effects of bloodletting are as follows:

1. False expectations, that is, seeing what one wishes to see.
2. Post Hoc Ergo Prompter Hoc. There is a tendency for both patients and their physicians to ascribe benefit or cure to the last therapy applied, and the subsequent failure to understand that these effects generally occur spontaneously without treatment.
3. The placebo effect. Employing a placebo as therapy has been generally accepted since Beecher reported in 1955 that a placebo

could produce definite beneficial or deleterious effects in 35% of his patients.[13] The existence of the placebo effect has been recently questioned,[14] but the data and conclusions of these authors were challenged in a recent *JAMA* editorial.[15] Most experienced clinicians currently accept the placebo effect as important in their practice.

4. Walter B. Cannon (1871–1945)[16] in 1932 discussed the physiologic effects induced by bleeding or major hemorrhage. Loss of blood induces a contraction of the encircling muscles in peripheral blood vessels and contraction of the spleen. The combined effect of these physiologic adjustments tends to compensate for the blood loss. There is also a discharge of, in Cannon's words "adrenin," now known as the catecholamines, epinephrine and norepinephrine. Accompanying these homeostatic mechanisms it seems likely that a secretion of cortisol would ensue. Hans Selye (1907–1982)[17] called the adrenal cortical response to severe stress, wherein adrenal cortical cells hypertrophy and discharge their lipid, cholesterol and ascorbic acid, "The Alarm Reaction" and the more chronic response "The Adaptation Syndrome."
5. It has also been suggested that bodily immune and defense responses may be enhanced by these physiologic conditions. A study published in 1957[18] of individuals immunized against mumps and whooping cough and subjected to biweekly bleeding of 200 cc. over one year showed that their levels of antibodies were enhanced. Diagnostic phlebotomy is carried out often in hospitalized patients. It seems possible that this may rarely exert some beneficial effects. The loss of blood in such settings can be considerable.[19] The effects of experimental bleeding in healthy volunteers were described by Shenkin et al.[20] Eighteen subjects were bled of approximately 500 cc. and 17 were bled of 1000 cc. In the second stage of severity of reaction it was noted that the upright position was not tolerated and syncope occurred. In the third stage syncopal attacks accompanied by bradycardia occurred in recumbent subjects at rest. Throughout the literature of blood letting one encounters similar observations.

Crude Statistical Data

There have been no scientifically conducted clinical trials using double-blind randomized, placebo-controlled methods to investigate the efficacy of bloodletting. Various authors have presented crude

estimates of its value as compared to patients treated without bleeding. Freedman,[21] in a commentary on Pierre Louis's report, emphasized possibilities of error. Louis (1787–1872)[22] bled 78 cases of pneumonia at different stages of the disease, and 50 patients survived. Among the survivors, bleeding in the first two days cut the length of the illness in half. He concluded that bleeding was a good treatment for pneumonia "although less effective than commonly thought." Commenting on the writings of Pierre Louis, Oliver Wendell Holmes[23] (1809–1894) observed, "I consider his modest and brief essay on bleeding in some inflammatory diseases . . . one of the most important contributions to practical medicine." Louis believed that strict analysis of numerous cases subjected to bleeding showed that a large proportion of diseases get well by themselves without any special medication.

In 1808 Thomas Smith[24] treated sixteen children, aged six months to seven years, diagnosed with croup. Eleven were bled, of whom four died. Of five not bled all recovered. He therefore rejected venesection "as a nuisance." H. Bennet[25] had his resident clerk physician review 208 casebooks belonging to twelve physicians of the Edinburgh Informary for 1812–1837. All of these physicians practiced "antiphlogistic," i.e., anti-inflammatory treatment. Of 103 cases of pneumonia reviewed, 55 were cured, 41 died and 7 "were relieved." Bennet was essentially opposed to bloodletting in inflammatory diseases, including uncomplicated pneumonia—especially in the young and vigorous—"which almost always improved without bleeding." However, he did recommend bloodletting in patients with "obstruction to the circulation" and in cases of right heart failure. He also presented the following statistics on the comparative mortality reported in the treatment of pneumonia:

> *A. Dietl, Vienna.* With venesection, 85 cases, mortality 20.4%. By diet, 189 cases, mortality 7.4%
> *B. Grisolle, Paris.* Venesection in the early stage, 50 cases, mortality 10%. By bleeding in the second stage, 182 cases, mortality 18%. Without antiphlogistic methods, 78 cases, mortality 4%.

Alfred Loomis also reviewed the world literature on the treatment of pneumonia as shown in table 1. He calculated the average mortality regardless of treatment at 20.1%. It is interesting to note that Grisolle found the mortality rate in patients who were not bled to be only 4%. Loomis was opposed to all antiphlogistic remedies including bleeding, antimony and mercury.

Opposition to Bloodletting

Though the therapeutic value of bloodletting was accepted and even extolled by the majority of physicians over at least 2500 years, there was always a small body of opposition. In ancient times Chrysippus of Cnidus (c. 365 B.C.), and Erasistratus (310–250 B.C.) both taught that blood was "the food of the soul" and that loss of blood would weaken a patient.[26]

Bernardino Ramazzini (1633–1714),[27] an Italian scholar and physician during a period when phlebotomy was almost universally practiced, exclaimed: "It seems as if the phlebotomist grasped the Delphic Sword in his hand to exterminate the innocent." Johann Gottlieb Wolstein (1738–1820),[28] director of the Vienna Veterinarian Institute, was one of the most vocal opponents of bloodletting in the 18th century. He taught that fever was the body's defense against disease, and that blood was the juice of life and an important element to combat disease. In 1791 Franz Josef Gall[29] of Vienna (1758–1828), published a book stating that bloodletting debilitates the vital force without attacking the disease directly. John Brown (1735–1788),[30] an Edinburgh student of the ardent bloodletter William Cullen, became dissatisfied with Cullen's teachings and opposed the employment of bloodletting as a reliable therapeutic measure.

French and Austrian physicians voiced skepticism as to the value and safety of bloodletting. Particularly vocal among the French were Pierre Louis (1787–1872), Augustine Grisolle (1811–1869), August F. Chomel (1788–1858) and Gabriel Andral (1797–1876).[31] In England, physiologist Marshall Hall (1790–1867), surgeon James Wardrop, and physician Charles Reade voiced opposition to "the abuse of bloodletting."[32] After 1860 the influence of Sir William Jennings and Sir William Gull (1816–1890) led to a substantial reduction in the use of venesection in England. Joseph Skoda (1805–1881),[33] well known as a therapeutic nihilist, strongly condemned bloodletting and purging.

In the United States, Samuel Thomson (1769–1843)[34] developed a system of botanical medicine and recommended the avoidance of heroic measures, condemning bloodletting and purging. Austin Flint (1812–1886),[35] one of the most eminent physicians of the 19th century, wrote in his classic *Textbook of Medicine* observations opposing the excessive use of venesection. In an 1830 review in the *Baltimore Monthly Journal,* he commented, "No remedy is more generally employed, not even calomel ('bluepill') and in fact many assure that no remedy is more abused."

The bleeding doctors became fair game for the sharp quills of novelists who joined the opposition to "heroic therapy" and vented ridicule upon these bloody molochs. In Charles Dickens's *Uncommercial Traveler,*[36] a sailor named Chip became ill. "My poor fellow, you are a case for the doctor. Sentry, take care of this man. So he was bled and blistered and he was this and that for six whole days." In Charles Reade's *Hard Cash,*[37] the patient complains, "Doctor, I am not a rat catcher, my man. I don't like surgeons . . . that carry a lancet." "And now I'll cut a great gash in your arms and let your blood run 'till you drop senseless. I'll bleed you from a large orifice 'till the occurrence of syncope." In *Ship Fever,*[38] author Andrea Barnett notes "But the director wouldn't let me do anything . . . bleed, bleed, bleed, and that's all he does." The most exotic of the satirical critics was Alain Rene LeSage's *Gil Blas,*[39] a picturesque creature, who became assistant to a Dr. Sangrado, a medic whose name became synonymous with excessive bleeding. Said the doctor to Gil Blas, "Remember my friend that bleeding and drinking warm water are the two grand principles, the secret of curing all distempers incident to humanity." Commenting on Dr. Sangrado's therapeutic results, said Gil Blas, "They died to a man either by our fault or their own."

Mark Twain[40] added his biting sarcasm aimed at the medical profession for their sponsorship of illogical allopathic treatments. "Castor oil was the principle beverage . . . the next was calomel, the next rhubarb and the next jalop. Then they bled the patient and put mustard plaster on him." Quoting from George Elliot's *Middlemarch:*[41] "For the heroic times of copious bleeding and blistering had not yet departed . . . disease in general was . . . treated accordingly without shilly-shally . . . but have it's blood drawn at once."

Prehistory, Archaic Civilizations, and Contemporary Preliterate Peoples

Medical historians have advanced several theories about the prehistoric origins of bloodletting. It seems generally agreed that preliterate peoples learned to cope with disease by trial and error. Prehistoric healers bled patients by opening a vein, scarification or mutilative procedures. They opened veins using sharp stones, animal horns or teeth, thorns, pointed sticks, arrow heads or spicules of bone. Wall paintings dating from 1400 B.C. depicted the use of leeches for drawing blood.[42]

Fielding H. Garrison[43] claimed that the Babylonians, "in keeping with the ancient passion for prediction and prognosis, tried to make special inferences from the appearance of blood drawn by venesection." The first written discussion of bloodletting is found in the *Iliad*.[44] In Book II, Idomeneus states "these again were led by the two sons of Aesculapius, the skilled leechers, Podalirius and Machaon." In Book XI, Idomeneus speaks to Nestor "for a leech is the worth of many other for the cutting out of arrows and the spreading of soothing simples."

The ancient Hindus were bleeders and performed leeching, cupping, and castigation. There is no recorded evidence that the ancient Chinese employed phlebotomy, but they did practice needling, leeching and dry cupping. Among the Japanese in the pre-Christian era, disease was regarded as sent by the gods or by evil spirits. Treatment was by incantation and exorcism. Later, drugs and bloodletting were introduced. The Aztecs practiced mutilative bloody religious practices in the worship of the sun but did not utilize bloodletting therapeutically.

Among contemporary and recent preliterate people, miniature bow and arrow devices have been found in South America and New Guinea. North American Indians practiced trepanation and ritual bloodletting as a form of castigation.[45]

Egypt

In 2980 B.C., Imhotep, a famous Egyptian engineer and architect was in charge of the construction of the step pyramid at Sakkara. He was also a physician who taught surgeons and barbers the treatment of injuries and illness including bloodletting. Some centuries later the Egyptians taught the Greeks the methods of Imhotep.

There are two passages in the Ebers Papyrus that have been interpreted as evidence that scarification was an accepted procedure. Whether the ancient Egyptians were the first to perform scarification or even phlebotomy is controversial. Lyons and Petrucelli[46] observed that "Bloodletting by scarification and by attaching leeches was a regular practice." Garrison[47] states bluntly, "Venesection was a common practice among the Egyptians, and, on account of their religious horror of mutilating the human body, was the only surgical procedure, in addition to circumcision, that was permitted." Joseph Smith[48] wrote, "Among the Egyptian physicians bloodletting was practiced to a very great extent." Henry Clutterbuck (1767–1856)[49]

agreed that "Scarification was common among the Egyptians and blood letting was also performed. It was common to see children on the street with ears covered with cotton on account of scarification they had undergone."

Classical Greece and Rome

The earliest artifactual evidence of Greek bloodletting is a vase, currently in the Louvre,[50] created a few generations before Hippocates (460–370 B.C.),[51] who is credited with the first recorded description of the technique of bloodletting. He believed that health depended on a proper mixture and balance of the four humors, and that in some cases an imbalance could be corrected by bloodletting. He recommended bleeding in "peripneumonia," pleuritis, acute infections, epilepsy and quinsy with convulsive suffocation. He advocated a conservative application of bleeding and he warned his pupils concerning the undesirable effects and complications that might ensue as a result of excessive bleeding. He made no mention of the quantity of blood to be drawn. Aristotle (384–322 B.C.), a scientist-physician as well as a philosopher, employed bloodletting and advocated drawing blood from an area corresponding to the site of disease. Asclepiades (120–70 B.C.)[52] did not accept the theory of Hippocrates' four humors, but he did bleed his patients.

Galen (130–200 A.D.)[53] was the foremost physician of the Greco-Roman period, whose influence on medicine extended into the Middle Ages and early modern Europe. He expounded the Greek system wherein disease was viewed as an imbalance of the four bodily fluids. His remedies for inflammation were "antiphlogistic"(anti-inflammatory) and included bleeding, antimony and mercury, but bleeding was his most favored. He was the first to discuss the quantity of blood to be extracted and recommended that, on an average, from seven ounces to one-half pound could be safely removed.

Biblical and Talmudic Medicine

The only reference to a physician in the Hebrew Scriptures describes the king of Jordan calling a doctor when he was ill.[54] The Talmud, a collection of ancient rabbinic writings, contains explicit instructions concerning all aspects of medical practice including bloodletting. Dr. Julius Preuss[55] describes the then current practice of

medicine in explicit detail in his monumental tome, *Biblical and Talmudic Medicine*. He notes that bloodletting was recommended for the treatment of numerous diseases and as a prophylactic measure to preserve health. He describes instructions and restrictions concerning all aspects of bloodletting. One interesting proscription relates to the dangers of sexual intercourse both before and after venesection: "If a man has blood let from his arm and then cohabits, his children will become cachectic; this is also true if one cohabits immediately after defecation; this may produce an epileptic child." Another proscription states that "before phlebotomy, one who fails to wash his hands, will be frightened for seven days without knowing why . . . and one should abstain from fish, fowl, or salted meat prior to phlebotomy." The timing of bloodletting was usually governed by astrological conditions not only in Biblical times, but also throughout the Middle Ages. Concerning the importance of bloodletting for the ancient Hebrews, it is directly counseled that no learned person should live in a city where there is no raphe (surgeon) or bloodletter.

Cupping was another mode of producing bleeding, and for this procedure horns of young cows or glass cups were used. Opponents of bloodletting believed that it was a transgression of religious law, which prohibited the making of cuts in the skin.

The Middle Ages (c. 500–1500 A.D.)

During the Middle Ages, Galenic notions continued to dictate the practice of medicine and were rarely challenged.[56] The physician was thwarted in his attempts to cope with the varieties of diseases that he encountered. Bloodletting was the keystone of therapy; it was a dramatic and impressive procedure that convinced both the patient and his physician that important measures had been pursued for his benefit. Monks and clerics did much of the bloodletting, and monasteries became key medical centers.[57] Clerics were presumed to be celibate, and it has been noted that bloodletting tended to suppress their libidos. Their role as physicians was abolished by a church edict of the Council of Tours in 1163.[58] Thereafter, barbers and barber surgeons carried on the practice of bloodletting. (Figure 1)

In Rome, barber surgeons, who were called *tonsores,* cut hair, trimmed nails and calluses, extracted teeth and performed bloodletting. The first barber's association was established in France in

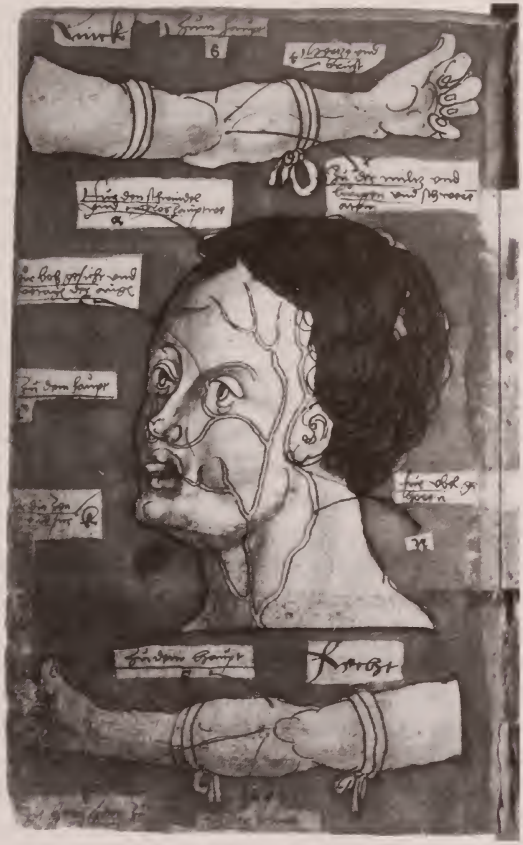

Figure 1 From a 16th-century German manuscript. Displays bloodletting points on the arms and the course of the veins on the head. The arm was the most common place for bleeding and the artist has included realistic depictions of tourniquets on both arms. Barber surgeons continued to perform most bleeding procedures. From Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London, British Library), p. 96. Reproduction of Wellcome ms. 93, f.48v. Permission obtained from British Library Reproduction Rights Department and from the Wellcome Trust, Ltd.

1252 and guilds were founded to protect their interests. A charter in 1540 united surgeons and barbers into one guild. Eventually the surgeons, who were better educated, were separated from the barber-surgeon category, and the distinction of surgeon from barber-surgeon was solidified. Physicians considered themselves the more

elite practitioners and would delegate their orders for phlebotomy to the surgeon or the barber-surgeon. Bathhouses were often the bleeder's workshop, and the church expressed disapproval of permitting both sexes to frequent the same bath to deter sexual liaisons. In some cases the bathhouses became bordellos. Sanitation was poor and contributed to the spread of disease.

The barber pole was the symbol of a barber, who performed bloodletting and was represented by a blood-smeared white rag. The more classical barber pole was a signboard at the door to distinguish the establishment from that of a surgeon. A basin was often attached to the pole to catch the drained blood. The pole represented the stick grasped by the patient to promote bleeding. The white stripe symbolized the tourniquet, and the red stripe symbolized blood. It was customary to visit the barber at intervals for beard, nail, callus and hair trimming and to be bled, the last as a prophylactic against disease and to maintain health. An old English verse advised that "a bleeding in the spring, is physic for a King."[59]

The practice of bloodletting was governed by beliefs we now know to be incorrect. It was thought that bleeding assisted the movement of contaminated blood from one organ to another, and that it would relieve inflammation by drawing blood away from the site of disease. All varieties of advice as to the most favorable time of the day, day of the week, and month of the year were offered to the bloodletter. Astrological considerations were dominant. Whether one should draw blood from the same side of the body as the disease or from the opposite side, and whether or not to bleed to syncope, were the subjects of longstanding and heated controversy. Dietary instructions were detailed. The quantity of blood to be extracted was also controversial, and was not based on any scientific knowledge since the total human blood volume was unknown. The bloodletter often noted the color, consistency, taste, smell and heat of the extracted blood, and how it flowed and clotted; he often washed the blood through a cloth to isolate impurities. (For a detailed discussion of the mechanisms of bloodletting and the diagnostic uses of observation of the blood extracted, see Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts,* London: British Library, 1998, 95–98).

Salubrious Salerno, on the Tyrrhenian Sea about 30 miles from Naples, was a health resort known since the days of Horace (65–68 B.C.). The medical school of Salerno[60] was pre-eminent in medieval times and its physicians were consulted by luminaries throughout Europe. The Salernitan *Regimen Sanitatis,* comprised of 362 stan-

zas, included the subject of bloodletting. For example, from the second verse: ". . . if bleed you have, keep coole, if bath'd keep warm." From verse 18: ". . . make your incision large and not to deepe, that blood have speedy issue with the fume.[63] *De Agritudinum Curatione,* a classic book of Salerno of the 12th century, recommended diet, purgatives, bloodletting and various drugs for the treatment of psychosis. The quantity of blood to be extracted was debated. The dominant school recommended bleeding until syncope or coma. The other school taught that this method was too severe and should be avoided.[61]

During the Middle Ages, Arabic medicine flourished and was generally considered to be superior to European medicine. Aristotle, Hippocrates, and Galen were favored authorities. Rhazes (850–923 A.D.),[62] a Persian who wrote an encyclopedic work on medicine, adhered to Galen's dictates and practiced bloodletting. Albucasis (936–1013 A.D.),[63] a major Muslim authority, wrote on surgical topics and relied on bloodletting, cupping and the cautery. Avicenna (980–1037 A.D.),[64] of Persia was the most distinguished of the Arabic philosopher-physicians. His *Canon of Medicine* was used as a textbook in parts of the West until the 17th century. It embraced all the known teachings of classical Greek and Arabic physicians, who had previously subscribed to the dictates of Galen, and favored bloodletting as an important element in therapy. He joined other Arabic physicians who recommended that blood should be drawn from the opposite side of the pathology, i.e., "derivative bleeding," as opposed to the Hippocratic school that favored bleeding from the same side, i.e., "revulsive bleeding." Arabs frequently bled patients by slightly pricking the vein of the foot to let the blood flow drop by drop.

The Renaissance

The explosion of social, intellectual, and technological advances that characterized the Renaissance challenged the thousand years of dominance of Galen's theories in medicine. Both Leonardo da Vinci (1452–1519) and Andreas Vesalius (1514–1564) dissected the human body and laid bare some of Galen's mistaken anatomical ideas. Nevertheless, bloodletting, along with allied measures (cupping, leeching, scarification) continued to dominate therapeutic practice. See Figure 1.

Meanwhile, Paracelsus (1493–1541),[65] well–known for scorning the works of Galen, Rhazes, and Avicenna, was also looked upon as a great reformer of surgical practice. His philosophy of medicine is best exemplified by the following: "The best of our popular physicians are the ones who do the least harm. But unfortunately some poisoned their patients with mercury and others bleed them to death. A physician should be the servant of nature and not her enemy." For mental disorders, however, he often recommended radical therapies including venesection and trephining. Pierre Brissot (1478–1522)[66] opposed the Arabic method of bloodletting (i.e., derivative bleeding). He adhered to the methods of Hippocrates and Galen, namely that blood should be let on the same side as the illness rather than on the opposite side. Ambrose Paré (1517–1590)[67] was a provincial barber's apprentice whose extraordinary talents led him to become a French army surgeon and one of the most prominent surgeons of his era. He used bloodletting extensively in the treatment of wounds, but he believed it was required only in large wounds. He taught that bloodletting was valuable in cases of erysipelas, at the beginning of "pestilent disease," to mitigate "inflamation of the braine or the membranes thereof in wounds of the head." Leonardo Bottallo (b. 1530),[68] despite his disbelief in the poisonous nature of gunshot wounds, adhered to the Paré dictates and advised frequent and copious bloodletting and also used leeches freely. Girolamo Fracastoro (1478–1553)[69] favored "the classical impeccable bleeding in the treatment of syphilis."

Seventeenth and Eighteenth Centuries

The Enlightenment of the 17th and 18th centuries was a period of intellectual ferment characterized by challenges to cherished beliefs. Major advances were achieved in anatomy, physiology, surgery, pathology, and in the diagnosis of disease. However, there was little progress in medical therapeutics. Bloodletting continued to maintain its grip on the practice of the majority of physicians. In the 16th, 17th and 18th centuries bloodletting for therapeutic and prophylactic purposes increased. Indeed, it was so prevalent in Europe that it became known as hematomania. In 1737, 73 percent of patients in the British Royal Infirmary were subjected to bloodletting.[70] The populace generally accepted it, and the barber continued to employ bloodletting as an important item of his trade. It was even ru-

mored that aristocratic ladies were periodically bled to maintain their clear, pale skin to distinguish them from the peasantry.

William Harvey's (1578–1657)[71] brilliant elucidation of the circulation of the blood is pertinent because it demonstrated that blood is continuously recycling, and therefore the selection of a particular vein or side of the body to perform venesection is of no consequence. However, even Harvey continued to rely on the generally accepted measures of bleeding, purging and vomiting. He wrote, "Daily experience satisfies us that blood-letting has a most salutary effect in many diseases, and is indeed the foremost among all the general remedial measures."

Guy Patin (1601–1672),[72] though Professor of Surgery and Dean of the Paris Faculty, denigrated surgeons. He recommended radical bloodletting and purging and was called the "notorious Paris Dean." His custom was often to bleed a patient ten times in two to four days. Thomas Sydenham (1624–1689),[73] was considered to be the most important and influential English physician of the 17th century and was called the English Hippocrates and the father of clinical medicine. Osler noted that Sydenham was "against authority and against the bleeding, the purging and sweating of 50 years ago." However, there is ample documentation that he did employ bleeding, although he advised against its radical use. A medical student, Thomas Dover of Warwickshire, residing in Sydenham's home, came down with small pox and recounted years after, "First I was bled to the extent of 20 oz., then an emetic. Sydenham bled patients freely who were suffering from tertian fever, brain fever, biliary colic, quinsy and rheumatism."

Hermann Boerhaave (1668–1738),[74] known as the Batavian Hippocrates, was generally viewed as the world's most eminent physician throughout his lifetime. He taught that inflammation was due to vascular obstruction of small vessels and relief could be obtained by bleeding and purging.

John Hunter (1728–1793),[75] like Paré, advocated bloodletting for gunshot wounds. He advised "Bleeding is certainly to be used here, as in all wounds where there is a strong and full habit, and where we expect considerable inflammation and symptomatic fever, but if it is such a gunshot wound as not to produce considerable effect either locally or constitutionally, I would not bleed merely because it is a gunshot wound."

In the 18th century, the Edinburgh School of Medicine was the dominant voice in medical matters both in Europe and America, and

became known as the *Athens of the North*. William Cullen (1710–1790)[76] ardently promoted the benefits of bloodletting, especially in the treatment of febrile and inflammatory diseases, and encouraged his many students to do likewise. Cullen is credited with coining the term *cyanache trachealis* to denote cases of acute inflammatory, edematous laryngitis and tracheitis with eventual respiratory obstruction, the ultimate cause of the death of George Washington in 1799. Cullen customarily advocated full bleeding in an adult male of tolerable strength, which equated to a pound of blood.

William Buchan (1729–1805)[77] published *Domestic Medicine* in 1769, a book that became a household guide for some 140 years. His principal thesis was that nature had intrinsic healing powers. "Most disorders and accidents can be self treated. Medicine should be plain art open to all." Nevertheless, he advocated bleeding in a variety of diseases including gout, crises of fever, peripneumonia or inflammation of the lungs, erysipelas of St. Anthony's Fire, quinsy, apoplexy, and violent bruises. He saw no value in any specific therapy for small pox, but he advised bleeding for complications such as plethora. He recommended the use of cupping or leeching whenever venesection could not be accomplished. He took issue with the usually dominant school of bleeders who advocated bleeding until syncope. He believed that bleeding to unconsciousness was ridiculous, and ". . . that a person will faint at the sight of the blood lancet, while others will lose almost the whole and not faint."

Francois Joseph Victor Broussais (1772–1838)[78] was a firm advocate of bloodletting. He usually favored the use of leeches. His *"hirudomania"* theory was responsible for an outburst of enthusiasm for leeching and, in one year, 42 million leeches were imported in France. His views were eventually accepted, and in 1831 he was appointed Professor of Pathology in the French Academy of Medicine.[79]

Benjamin Rush (1745–1813) advocated some of the most extreme forms of "heroic therapy" in the 18th century.[80] A signer of the Declaration of Independence and one of the founders of the College of Physicians of Philadelphia, he was preeminent among Colonial physicians. He taught that copious bloodletting ". . . should be repeated while the symptoms which first indicated it continue, should it be 'till 4/5ths of the blood contained in the body be withdrawn away." Rush was so influential that his medical brethren, Dr. Adam Kuhn (1741–1817), Dr. William Shippen (1787–1808) and others, bled their patients for fever and pleurisy by the quart.[81] Such massive depletion (up to 2,000 cc. in the first 24 hours) of the total

blood volume by Rush must certainly have hastened the death of many of his patients, especially during the yellow fever epidemic that ravished Philadelphia in the summer of 1793. Rush and his fellow physicians erroneously thought that the volume of blood in the human body was double the true value.

Rush became interested in the study and treatment of the mentally ill. He was known as the "Father of American Psychiatry" and used bloodletting as the keystone of his therapies.[82] Whether Benjamin Rush was the first or the principal exponent of "heroic therapy" is discussed in detail in a paper by Robert B. Sullivan.[83] Rush's methods were bitterly opposed by a group of Philadelphia physicians, who attacked his methods and him personally by speech and in print, resulting in two libel suits. William Cobbet, an archenemy of Rush, wrote in his *Porcupine Gazette* "The times are ominous indeed, when quack to quack cries purge and bleed."[84] In support of Rush, Dr. Phillip Syng Physick (1768–1837), one of Philadelphia's most eminent physicians, described his own encounter with yellow fever and how he recovered after the loss of 176 oz. of blood in 22 bleedings within 10 days.

That Benjamin Rush was not the most extreme proponent of massive bloodletting is attested to in *Anomalies and Curiosities of Medicine*.[85] Included are the most remarkable instances of excessive blood loss with recovery to be found in the older records of venesection. "The reckless way in which venesection was resorted to led to its disuse until today it has so vanished from medical practice that even its benefits are overlooked and depletion is brought about in some other way." Included in this book is a description of the large quantities of blood extracted by various physicians. One physician reported removing 190 ounces within four days.

Even kings and presidents did not escape the ministrations of the bleeders. Henry II and Charles IX, kings of France, were victims of a Dr. Botal who recommended profuse bloodletting.[86] When Charles II (1630–1685) of England suffered a stroke in 1685, his doctors extracted 24 ounces of blood. Though his speech returned briefly, he died shortly thereafter.[87] In 1820 King George IV (1762–1830) of England became ill and was bled of 150 ounces. He survived another ten years and his recovery was credited to the bloodletting.[88] George Washington's physicians, Dr. James Craik (1731–1814) and Gustavus Brown, removed 80 ounces of blood in 12 hours in an attempt to ameliorate his suffering from an acute attack of infectious epiglottitis and edematous laryngitis with respiratory

obstruction, known in that era as cyanache trachealis.[89] An avalanche of criticism was directed at Washington's doctors, centering on the extensive loss of blood that may have been instrumental in hastening his death. William Cobbett,[90] the archenemy of Benjamin Rush, entered the fray, expressing his layman's opinion that the copious bleeding and massive doses of mercury employed were ". . . a perversion of nature's healing powers."

Dr. Solis Cohen (1857–1948), a prominent Philadelphia internist, defended the therapy that had been employed as being generally acceptable in 1799, and a similar opinion was voiced by both Dr. J.N. Mackenzie[91] at a meeting of the Laryngology Society of Maryland and by Dr. John Jackson (1806–1878) in his 1860 Memoir of "The Last Sickness of General Washington."

Nineteenth Century

In the 19th century the employment of bloodletting gradually diminished but never abruptly ceased; it fluctuated considerably from decade to decade. In 1875 one physician[92] commented "we are now living in one of the periods when the lancet is carried idly in its silver case; no one bleeds, and yet, from the way in which I find my friends retain their lancets and keep them from rusting, I cannot help think that they look forward to a time when they will employ them again." There were other notable exceptions ranging from serious reservations to complete interdiction. In the 1830s and 1840s there was a demonstrable decline in its use. By the early half of the 19th century, American physicians were undoubtedly influenced by the influx of French physicians, who were opposed to bloodletting, and believed that milder methods of treatment were more successful. The death knell, to an extent, of bloodletting has been attributed to the general advances in medical knowledge. However, in 1848 and 1896, bleeding was recommended for cerebral hemorrhage with high blood pressure, arterial aneurysm and poisoning by carbon monoxide, hydrogen sulfide, nitrobenzene, cyanide, carbolic acid and phenylhydroxyalanine, and in puerperal eclampsia.

A review of data from the Massachusetts General Hospital (MGH)[93] is quite revealing. It clearly exhibits the diminution in the employment of bloodletting in hospitalized patients in the 19th century. See Table 1.

Table 1 Percent of MGH Patients Who Were Bled by Decade	
1820–1829	26%
1830–1839	35%
1840–1849	22%
1850–1859	14%
1860–1869	9.5%
1870–1879	1.8%
1880–1889	.9%

Despite the lull in enthusiasm for bloodletting, some leading physicians continued to laud its benefits. Prominent among them was Samuel D. Gross (1805–1884),[94] a leading American surgeon, who opposed "the antivenesection epidemic" and complained that the "fate of bloodletting . . . shows what little faith there is to be placed on human judgement." Dr. W.P. Alison (1790–1859)[95] in 1856 wrote that "bloodletting was the most powerful remedy that we possess, especially recommended for pneumonia." Other laudatory remarks were published in 1875 by William Henry Day (1820–1907),[96] who observed that after a surgical operation, "bloodletting to be done promptly when the first symptoms appear . . . when flushing of the face, rapid pulse, hot dry skin . . . even though there was no rise of temperature."[97]

During the American Civil War, military doctors, unable to cope with widespread disease and infection of the Union soldiers, purged and bled, as did their civilian counterparts.[98]

Sir Thomas Watson,[99] President of the Royal College of Physicians, wrote "bleed so as to secure the advantages of the remedy and avoid its disadvantages." Leon S. Bryan's monograph[100] lists five physicians who recommended bloodletting by venesection or leeching in the treatment of peritonitis. Even Laennec (1781–1826), inventor of the stethoscope, favored the employment of bloodletting in certain circumstances.

Austin Flint, M.D. (1812–1886),[101] an eminent 19th-century American internist, wrote in his classic textbook of medicine observations opposing the excessive use of venesection. In an 1881 review

in the *Baltimore Monthly Journal*, he commented "no remedy is now more general . . . not even calomel . . . and this fact may assure that no remedy is more abused." He did, however, recommend its use in pleurisy and pneumonia in sthenic patients.

Twentieth Century

It is not at all surprising that some remaining enthusiasm for bloodletting in the latter part of the 19th century would meld into the early years of the 20th century. Physicians were still helpless when faced with most disorders. The advent of present-day potent therapeutic measures (antibiotics, diuretics, effective drugs, etc.) would await later decades when revolutionary methods of study and therapy would endow physicians with a heightened ability to combat disease. Guenter B. Risse[102] titled a 1979 article "The Renaissance of Bloodletting," and quoted Heinrich Stern's 1915 article: "Like a phoenix, the fabulous bird, bloodletting, has outlasted the centuries and has risen, rejuvenated, and with new vigor from the ashes of fire which has threatened its destruction."

Sir William Osler (1850–1919),[103] the most distinguished internist in the English-speaking world at the turn of the century, recommended bloodletting in the treatment of pneumonia in all editions of his authoritative textbook, including the final 1942 text that was revised by Henry A. Christian: "To bleed at the onset in robust healthy individuals in whom the disease sets in with great intensity and harsh fever is good practice." David Kramer (1890–1969),[104] a prominent Philadelphia internist, in a 1920 article, pleaded for more frequent use of venesection "when indicated." Other prominent physicians of the twentieth century who favored bloodletting included Walter A. Wells,[105] Hobart A. Hare,[106] Walton F. Dutton,[107] and R.D. Rudolphe.[108] W. Wayne Babcock, M.D. (1872–1963),[109] Professor of Surgery at Temple Medical School, in the 1935 edition of his *Textbook of Surgery*, the bible for a generation of Temple medical students, discussed phlebotomy: "Used at times for high blood pressure, distension of the right heart, plethora, toxemia and autointoxication." O.H. Perry Pepper (1884–1962),[110] Distinguished Professor of Medicine at the University of Pennsylvania Medical School, writing in 1945 stated: "Yet blood today may be removed when the heart is failing and the lungs are engorged with blood. Venesection may also be done when the blood pressure is too high and when there is excess volume of blood in the body."

Bloodletting was found to be useful in cases of blood intoxication, including carbon monoxide, hydrogensulfide, nitrobenzene, cyanide, and alcohol. During World War I, it was reported to be helpful in the treatment of soldiers exposed to phosgene-chlorine gas.[111] Venesection continues to be standard therapy for the polycythemias, hemosiderosis and porphyria cutanea tarda. Even today, a lay practitioner (Ghyas) practices bloodletting in Old Delhi. He is consulted daily by scores of patients both local and worldwide.[112]

Bloodletting was also recommended in the early years of the twentieth century for a variety of conditions, including nasal-retinal-cerebral hemorrhages, hemoptysis in pulmonary tuberculosis, influenza, epileptic seizures during menstruation, and *mirabile dictu,* a variety of dermatological disorders, including psoriasis, eczema, furunculosis, urticaria, and Raynaud's disease.

Bloodletting Instruments

The Lancet

Lancets vary in size and configuration but usually consist of a single sharp-pointed or rounded blade at the end of a long steel handle, which could accommodate two or more blades of different sizes. The spring lancet, introduced in the early 17th century, consisted of a blade in a case connected to a spring coil. When the spring was recoiled the blade was driven into the vein. This mechanism avoided the use of manual pressure and caused minimal discomfort. The fleam, used in the 17th and 18th centuries, was a three-bladed lancet used for larger cuts and was principally used to bleed horses. Lancets were used for venesection, but rarely for arteriotomy. Venesection was often called "breathing a vein." The basilic vein was the most favored site and "is the vein of the liver and spleen,"[113] and it would be used in illnesses attributed to the liver and spleen.

Scarification

Scarification was usually accomplished with a twelve-bladed brass or silver boxed instrument controlled by a spring or trigger. It produced narrow punctures in the skin so that bleeding would be relatively painless. It was often employed prior to cupping and to abrade the skin for small pox vaccination.

Cupping

Dry cupping was performed by producing a vacuum in a cup by heat or suction and then applying the cup to the skin. It acted as a counterirritant. Wet cupping was preceded by scarification to produce additional bleeding. Cupping with or without scarification is often used today to create suction to the site of a poisonous snakebite.

Leeches

Hirudo medicinalis, the leech most commonly employed, has chitinous jaws that pierce the skin, draw blood from the immediate area (capable of extracting one ounce of blood in one hour) and inject an anticoagulant (hirudin) that prolongs bleeding after the engorged leech falls off. It also injects an anesthetic agent. Leeches were often used in areas difficult to bleed such as the eyes, mouth, the penis and anus. Today there has been a revival of leeching because it was discovered that the technique was useful for reattachment surgery of the ears and nose. It is commonly employed by hand surgeons.[114] Leeches USA, Ltd., recently supplied 240 leeches to four Philadelphia hospitals. The organization yearly imports leeches from a European source and ships approximately 30,000 leeches to various medical centers.

Bowls

Numerous varieties of bowls have been used to collect blood, including circular bowls and bowls fashioned to fit the chin. Shortly after 1500, bowls appeared that were notched so as to fit against the neck and the antecubital fossa, and were probably the forerunner of the modern kidney dish. Some were marked with graduations to measure the quantity of blood extracted. They were made of a variety of materials such as clay, glass, copper, pewter, brass, tin, silver and gold.[115]

Conclusion

This paper has attempted to distill an aliquot of the chronological history of bloodletting from the mountains of monographs, papers and books that have been published over the centuries. All of the apparent beneficial effects of bloodletting have been anecdotal and the untoward effects have been glossed over by its proponents. Nonetheless, it is difficult to accept the fact that the practice of

bloodletting has been completely nugatory. It seems eminently possible that in very rare occasions bloodletting may have benefited the patient by a variety of mechanisms. It may have provoked hypersecretion of cortisol and catecholamines (Selye's "Alarm Reaction"). Immune responses may have been enhanced. The reduction of blood viscosity is a corollary of venesection. There may have existed unrecognized cases of polycythemia, hemosiderosis or porphyria cutanea tarda. The psychological effects of such a dramatic procedure may have impelled the patient and his doctor to expect benefit. The history of bloodletting is essentially in large part the history of medicine of the last 2500 years.

Acknowledgments: I am indebted to the following individuals at the College of Physicians of Philadelphia whose generous help made the preparation of this monograph possible: Gretchen Worden, Director of the Mütter Museum; Christopher Stanwood, Historical Reference Librarian; and Marc S. Micozzi M.D., Ph.D., Executive Director, who alerted me to the bloodletting of Charles II of England. I am especially indebted to Edward T. Morman, Ph.D., Director of the Wood Institute History of Medicine.

Endnotes

1. Robert B. Sullivan, M.D. Sanguine Practices. A Historical and Histiographic Reconsideration of Heroic Therapy in the Age of Rush. *Bulletin of the History of Medicine.* 68:211–234, 1994.

2. Roy Porter. *A Medical History of Humanity.* W.W. Norton & Co., New York. p. 39.

3. T. Watson, D. Condie. *Watson's Practice of Physic.* Blanchard & Lea, Philadelphia and London, 1968. p. 107.

4. Andrew Bowser, M.D. Bloodletting Improved Hepatitis C Response to Interferon. *Doctor's Guide.* May, 1999.

5. Sango Kim, Young I Cho, Kenneth Kinsey et al. *Review Scientific Instruments.* 71:188–192, 1979.

6. Editorial; Phlebotomy, an Ancient Practice Turning Modern? *J.A.M.A.* 183:279–280, 1963.

7. Guenter B. Risse, M.D. The Renaissance of Bloodletting. A Chapter in Modern Therapeutics. *J. History Medicine & Allied Sciences.* 15:128, 1979.

8. A. J. Lee, M.D. et al. Blood Viscosity and Elevated Carotid Intimal-Media Thickness in Men and Women. The Edinburgh Artery Study. *Circulation* 97:1467–1473, 1998.

9. George E. Burch, M.D. & N.P. DePasquale, M.D. The Hematocrit in Patients With Myocardial Infarction. *J.A.M.A.* 183:142, 1962.

10. George Klein. *The Atheist and the Holy City.* M.I.T. Press, 1987. p. 128.

11. James Wardrop, M.D. *On Bloodletting.* J.B. Balliere, 1873. pp. 29–47.

12. Lester King, M.D. *Medical Thinking, A Historical Preface*, Chapter 11. Princeton University Press, N.J., 1982.

13. H.K. Beecher, M.D. The Powerful Placebo. *J.A.M.A.* 159: 1602–1606, 1955.

14. Aspjorn Hrobjartsson, M.D. & Peter Gotzsche, M.D. Is the Placebo Powerless? An Analysis of Clinical Trials Comparing Placebo With No Treatment. *New England J. Med.* 344:1594–1602, 2001.

15. The Powerful Placebo and the Wizard of Oz. *J.A.M.A.* 344:1630, 2001.

16. Walter B. Cannon, M.D. *The Wisdom of the Body.* W.W. Norton & Co. Inc., New York, 1932. pp. 41–59.

17. Hans Selye, M.D. *Textbook of Endocrinology. Acta Endocrinologa. Universite de Montreal, Canada.* 1947. p. 852.

18. Stokes Smollens & A.B. Vogt. Human Plasmapheresis and Its Effect On Antibodies. *J. Immunology.* 79:434–439, 1957.

19. Jocelyn M. Hicks, M.D. Excessive Blood Drawing For Laboratory Tests. *New Eng. J. Med.* 3403:1690, 1999.

20. Henry A. Shenkin, M.D. et al. On the Diagnosis of Hemorrhage in Man. A Study of Volunteers Bled Large Amounts. *Am. J. Med. Science* 208:421–436, 1944.

21. David Freedman. Statistics Department, University of California, Berkley, CA. Technical Report No. 521. *Statistical Science,* May 30, 1994.

22. Pierre Louis. *Recherche Sur Les Effects de las Soignee Dans Quelque Maladies Inflamatoires, et Sur L'Action de L'Emeticgue et des Vesictoires Dans la Pneumonia.* J.B. Nailliere, Paris. Reprinted by The Classics of the Medical Library, Birmingham, Ala., 1986.

23. Oliver Wendell Holmes, M.D. *Medical Essays 1842–1882.* 5th Ed. Boston: Houghton, Mifflin & Co. New York, 1885.

24. Thomas Smith, M.D. Observations on the Treatment of Croup. The Philadelphia Museum. 4:31–35, 1808.

25. John Hughes Bennet, M.D. On the Treatment of Internal Inflammation by Bloodletting. *Edinburgh M. J.* 2:769–796, 1857.

26. Victor Robinson, M.D. *The Story of Medicine.* Tudor Publishing Co., New York, 1932. p. 67.

27. Arturo Castiglione, M.D. *A History of Medicine.* Translated from the Italian by E.B. Krumbaar, M.D. 2nd Ed. Alfred A. Knopf, 1947. p. 564.

28. Robert Rosenthal, M.D. An Early Opponent of Venesection. *Medical Life* 29:585–590, 1922.

29. Ibid. Roy Porter, p. 296.

30. Albert S. Lyons, M.D. & R. Joseph Petrucelli II, M.D. *Medicine, An Illustrated History.* Harry N. Abrams, Publisher, 1978. p. 467.

31. B.M. Randolphe, M.D. The Bloodletting Controversy in the Nineteenth Century. *Ann. Med. Hist.* 7:180, 1935.

32. E.L. Carey, M.D. & A. Hart, M.D. *Researches Principally Relative To The Morbid and Curative Effects of Loss of Blood.* 1830. p. 144.

33. Ibid. Albert S. Lyons, M.D. & R. Joseph Petrucelli II, M.D. p. 520.

34. John S. Haller, Jr. *The People's Doctors. Samuel Thomson and the American Botanical Movement.* 1790–1860. So. Illinois Press. Carbondale & Evansville, Ill., 2000. pp. 123–124.

35. Austin Flint, M.D. A Treatise on the Principles and Practice of Medicine. 1886. p. 448.

36. Charles Dickens. *The Uncommercial Traveler.* The End of Chip. Dentz, London. Everyman's Library. Dutton, New York. Collective Edition, 1850. p. 151.

37. Charles Reade. *Hard Cash.* Boston, DeWolfe & Co., 1863. pp. 261–263.

38. Andrea Barnett. *Ship Fever.* W.W. Norton & Co. New York, London, 1996. p. 166.

39. Alain Rene LeSage. *The Adventures of Gil Blas of Santillane.* Translated by Tobias Smollet. New York, The Century Club, 1907. pp. 76–80.

40. Patrick Ober, M.D. The PreFlexerian Reports. Mark Twain's Criticism of Medicine. *Ann. Int. Med.* 126:157–163, 1997.

41. George Eliot. *Middlemarch.* Modern Library, New York, 1884. p. 138.

42. Gilbert R. Seigworth, M.D. Bloodletting Over The Centuries, *New York State M.J.* 80:2022, 1980.

43. Fielding Garrison, M.D. The History of Bloodletting. *New York M. J.* XCVII, 1913. A.R. Elliot Publishing Co. Also Jacquette Hawkes. *The World of the Past.* Alfred A. Knopf, New York, 1963.

44. Ibid. Victor Robinson, M.D. and Henry A. Sigerist, M.D. *A History of Medicine*, Vol. II, Early Greek, Hindu and Persian Medicine. Oxford University Press, 1961. pp. 32–33.

45. Walter A. Krickberg, M.D. Bloodletting and Castigation Among The American Indians. *Ciba Symposia* 1:26–34, 1939.

46. Ibid. Albert S. Lyons, M.D. and R. Joseph Petrucelli II, M.D. p. 98.

47. Ibid. Fielding Garrison, M.D. p. 432.

48. Joseph T. Smith, M.D., M.Ed. A Historical Sketch of Bloodletting. *Johns Hopkins Hospital Bull.* 21:32, 1910.

49. Henry Clutterbuck, M.D. Lectures on Bloodletting, delivered at the General Dispensary, Aldergate Street. Haswell, Barrington & Haswell, Philadelphia, 1839. pp. 55–109.

50. A. Lawrence Abel, M.Ed. Bloodletting, Barber Surgeons, Shaving and Bleeding Bowls. *J.A.M.A.* 214: 900, 1970.

51. Hippocrates Genuine Works. Translation by Frances Adams 1:261–269, 1886.

52. Ibid. Joseph T. Smith, Sr., M.D. p. 312.

53. J. Scarborough. Roman Medicine. p. 265, 1969. *Encyclopedia Brittanica,* 15th Ed., Vol. 7, p. 850. Also Peter Brain. *Galen on Bloodletting.* Cambridge University Press, New York, 1986.

54. Nigel Alan, Ph.G. The Physician in Ancient Israel, His Status and Function. *Med. Hist.* 45:377–394, 2001.

55. Julius Preuss, M.D. *Biblical and Talmudic Medicine.* Translated and edited by Fred Rosner, M.D. Jason Andereson, Inc., Northvale, N.J., London, 1911. pp. 248–257.

56. John H. Mundy & Peter Riusenberg. *The Medieval Town.* D. Van Nostrand Co. Inc., Princeton, N.J., 1958.

57. Ibid. Roy Porter, p. 110; ibid. Lyons & Petrucelli, p. 265.

58. Ibid. Gilbert R. Seigworth, p. 2022.

59. C.P. Clark, M.D. Observations On Bloodletting. *Medical Record* 6:319–320, 1871–1872.

60. Ibid. Victor Robinson, p. 219.

61. Ibid. Arturo Castiglione, pp. 307–325.

62. Ibid. Victor Robinson, pp. 152–155.

63. Ibid. Victor Robinson, pp. 164–165.

64. Linda E. Voigts & Michael R. McVaugh. A Latin Technical Phlebotomy And Its Middle English Translation. *Transactions American Philosophical Society.* 74:4, 1984.

65. Walter Pagel, M.D. *Paracelsus, An Introduction To Philosophical Medicine In The Era of the Renaissance.* Basel S. Lager, New York, 1958. p. 152.

66. Ibid. Roy Porter, p. 171.

67. Ibid. Arturo Castiglione, p. 152. Also, *From The Collected Works of Ambrose Pare.* Translated from the Latin in the first English Edition, 1634. Milford House, London.

68. Ibid. Arturo Castiglione, p. 300.

69. Ibid. Roy Porter, pp. 174–175.

70. The Art and History of Bloodletting. *Surgical News Archives.* Vol. 1, No. 8, Sept. 2000.

71. Robert Willis, M.D. The Works of William Harvey, Translated From the Latin with the Life of the Author. *Sydenham Society.* 96:624, 1847.

72. Ibid. Victor Robinson, p. 218.

73. R. G. Latham, M.D. *The Works of Thomas Sydenham, M.D.* Vol. I. London. Printed for The Thomas Sydenham Society.

74. Ibid. Lester King, pp. 229–230.

75. John Hunter, M.D. A Treatise on the Blood, Inflammation and Gun Shot Wounds. London, for George Nicol, Bookseller To His Majesty. *Pall Mall*, 1794. p. 563.

76. William Cullen, M.D. First Lines of the Practice of Physic. IV Ed. Edinburgh, Printed For Chas. Elliot, 1784. pp. 278–306.

77. William Buchan, M.D. *Domestic Medicine or a Treatise on the Prevention and Cure of Disease by Regimens and Simple Medicine.* Edinburgh, Balfour, Auld & Smillie, 1769.

78. Ibid. Victor Robinson, pp. 372–373.

79. Ibid. Victor Robinson, p. 328.

80. Nathan Goodman, M.D. *Benjamin Rush, Physician and Citizen.* University of Pennsylvania Press, Philadelphia, 1936.

81. Catherine Drinker Bowen. *Miracle at Philadelphia; The Story of the Constitutional Convention. May–Sept. 1787.* An Atlantic Monthly Press Book. Little, Brown and Co., Boston, Toronto, 1966. pp. 162–163.

82. Ibid. Nathan Goodman. pp. 264–265.

83. Robert B. Sullivan, M.D. Sanguine Practitioners, an Historical and Histiographic Reconsideration of Heroic Therapy in the Age of Rush. *Bull. Hist. Med.* 68:211–234, 1994. Also John B. Kelley, Jr. *Life and Times in Colonial Philadelphia.* Stackpole Books, 1978. p. 95.

84. Ibid. Nathan Goodman, p. 217.

85. George M. Gould, M.D. and Walter Pyle, M.D. *Anomalies and Curiosities of Medicine.* Sydenham Publishers, New York, 1937. p. 709.

86. Alexander Wilder, M.D. *History of Medicine.* New England Eclectic Publishing Co., 1901. p. 164.

87. Stephen Coote. *Royal Survivor. The Life of Charles II.* 2000.

88. Alfred Jay Bollet, M.D. *Civil War Medicine; Challenges and Triumphs* "Heroic Therapies." Galen and Press, Tucson, AZ, 2002.

89. John Brickell, M.D. Observations on the Medical Treatment of General Washington In His Illness. *Transactions & Studies of the College of Physicians of Philadelphia* 25:90–94, 1903.

90. Editorial; Washington's Death and The Doctors. *J.A.M.A.* 33:1430, 1899.

91. J.N. Mackenzie, M.D. Last Illness of Washington. *J.A.M.A.* 333:1655, 1899.

92. W. Mitchell Clark, M.D. On the History of Bleeding and its Disuse in Modern Practice. *Brit. M. J.* 2:68. 1875.

93. John Harley Warner, M.D. *The Therapeutic Perspective of Medical Knowledge in America. 1820–1855.* Harvard University Press, Cambridge, Mass., 1986.

94. Samuel D. Gross, M.D. Then and Now. A Discourse Introductory to the 43rd. Course of Lectures in the Jefferson Medical College of Philadelphia. 1870. pp. 22–28.

95. W.P. Alison, M.D. Reflections on the Results of Experience as to the Symptoms of Internal Inflammation and the Effects of Bloodletting During the Last 40 Years. *Edinburgh M. J.* 1:769–788, 1855–1886.

96. William Henry Day, M.D. Remarks on Bloodletting After Surgical Operations. Report of the Royal Medical and Chirurgical Society, Tuesday, April 22, 1825. *Brit. M. J.* 1:588. 1875.

97. Ibid. *Medicine, An Illustrated History.* p. 511

98. Mary C. Gillet. *The Army Medical Department.* 1818–1865.

99. Thomas Watson, M.D. *Lectures on the Principle and Practice of Physic.* 3rd American Edition. Richard & Lee, Philadelphia, 1857.

100. Leon S. Bryan, M.D. Bloodletting in American Medicine. 1830–1892. *Bull. Hist. Med.* 38:526–539, 1963.

101. Austen Flint, M.D. *A Treatise on the Principles and Practice of Medicine.* 1886. p. 448.

102. Ibid. Guenter B. Risse, p. 3.

103. Sir William Osler, M.D. *The Principles and Practice of Medicine.* Revised by Henry A. Christian, M.D. 14th Semicentennial (1897–1942). D. Appleton Century Co., Inc., New York. pp. 61, 107.

104. David Kramer, M.D. Venesection, a Lost Art. *N.Y. Med. J.* 112:898–902, 1920.

105. Walter A. Wells, M.Ed. Last Illness and Death of Washington. *Virginia Med. Monthly.* 53:636, 1927.

106. Hobart A. Hare, M.D. *The Textbook of Practical Therapeutics,* 13th Ed. Lea & Febiger, Philadelphia, New York, 1909.

107. Walton F. Dutton, M.D Venesection, a Brief Summary of the Practical Value of Venesection in Disease. 56:70, 1916. F. A. Davis, English Depot, Stanley Phillips, London.

108. R.D. Rudolphe, M.Ed. The Present Position of Venesection. *Canadian Med. Assoc. J.* 4:287–295, 1914.

109. W. Wayne Babcock, M.D. *Textbook of Surgery,* 2nd. ed. 1935. p. 481.

110. O.H. Perry Pepper, M.D. Benjamin Rush's Theories on Bloodletting After 150 Years. *Transactions & Studies of the College of Physicians of Philadelphia* 13/14: 121–126, 1945–1947.

111. Ibid. Guenter B. Risse, p. 14.

112. Anita Pratrap. New Delhi Bureau Chief, from Interactive CNN.Com. 2001.

113. Peter Murray Jones. *Medieval Medicine In Illuminated Manuscripts.* The British Library, 1998. p. 96.

114. Mary Ann Golden, R.N., Jeanne J. Quinn, R.N. et al. Leech Therapy in Digital Reimplantation. *AORN Journal* 62:364–375. 1995.

115. A. Lawrence Abel, M.D. Bloodletting: Barber Surgeons, Shaving and Bleeding Bowls. *J.A.M.A.* 214: 900–901, 1970.

Essay Reviews

Jacalyn Duffin. *History of Medicine: A Scandalously Short Introduction.* Toronto: University of Toronto Press, 1999. 432 pages.

Roy Porter. *The Greatest Benefit to Mankind: A Medical History of Humanity.* New York: W.W. Norton & Company, 1998. 832 pages.

Barry Schlansky

From cell to community, modern medical education tries to groom physicians competent in all levels of healthy living. Within the past few decades, many North American medical schools have broadened their curricula to include the medical humanities and other aspects of humanistic medicine. Small group instruction fosters early rapport between students and clinicians, modulating the traditionally rigid hierarchy in medical institutions. One enters the hospital during the first two years to hone interviewing skills, to become comfortable with the patient, and to experience firsthand the regressive effects of illness on behavior. It can be difficult to reconcile these human experiences with the largely passive, lecture-based instruction in the basic sciences—especially not having had any real clinical experience. Students further in their medical education observe that only after one enters the clinical years does this bewildering dichotomy resolve.

Due to time constraints, medical school curricula mostly neglect the history of medicine. Having spent this summer gaining a superficial familiarity with this subject, I found its utility in medical education to be startlingly evident; I now visualize continuity between evidence-based medicine and patient care. An understanding of this link facilitates the ability to make the leap from "bench to bedside." Can medical students wholly dedicate their energy to a demanding program of study without a cohesive appreciation of how everything fits together? The history of medicine reveals to the physician in training that even hard science ultimately depends on social context.

The two books reviewed here attempt to summarize the currents of medical history. Although both are introductory history of medicine texts, the value of each in teaching medical students differs

greatly. Roy Porter's *The Greatest Benefit to Mankind: A Medical History of Humanity* is the more acclaimed, with reviews in *The Lancet* dubbing it "the standard single-volume work in the field," and with the *New York Times Book Review, Los Angeles Times,* and *Boston Globe* publishing similarly glowing praise. Porter intends his text for a general audience, while Jacalyn Duffin addresses the absence of a recent medical history text written for medical students. Duffin expressly wrote her recent book, *History of Medicine: A Scandalously Short Introduction,* to fill this void in medical education. As she points out in the book's introduction, objectives for her students are "to raise awareness of history as a research discipline. . . . [and] to instill a sense of skepticism with regard to the 'dogma' of the rest of the curriculum." These are laudable goals; they hope to make seemingly impractical content palatable to students intently focused on learning medical fundamentals. A hematologist and Ph.D. historian at Queen's University in Ontario, Duffin is clearly the woman for the job. Porter, a historian with no formal medical training, sometimes stumbles in describing the scientific implications of medical breakthroughs. Duffin does not. References to the conflict between physician and Ph.D. historians sprinkled throughout her book suggest that Duffin is acutely aware that in teaching medical history to scientifically inquisitive medical students, it is vital to understand the science behind past medical innovations.

A Scandalously Short Introduction forsakes chronology in favor of a discipline-based approach; chapters titled "History of Anatomy," "History of Physiology," "Why Is Blood Special?" and so forth mimic the curricula of most medical schools. Reading these chapters concurrently with each respective course would be profoundly enriching. Yet Duffin does make sacrifices by choosing this organization. An example is the recent trend in medical education of conversion from a discipline-based to an organ-system-based curriculum, which undermines the value of her format. Educationally, the merits of this transition are significant. Galen described both the anatomy of the heart and the physiological basis by which blood transfers from one side to the other. Dividing Galen into two chapters lacks cohesion, because his structural description of the heart is the lynchpin for its postulated function. The body does not function in discrete capacities of anatomy, of physiology, or of biochemistry; it is a unified whole. Similarly, the contributions of a prominent historical figure like Galen are best described together, so that the reader appreciates his evolution of thought. Despite the fact that most med-

ical schools continue to teach by discipline, a chronological format is clearly more intuitive in achieving an accurate understanding of modern medicine, and the history of how it came to be.

Duffin's background resonates throughout the book. Much of the chapter titled "Technology and Disease" parallels her earlier work, *To See with a Better Eye: A Life of R.T.H. Laennec.* To her credit, Duffin's intimate knowledge of Laennec and his stethoscope allows her to examine both the medical and historical roles of one example of medical technology in exhaustive detail. Its value was not only in the ability to quantify symptoms of illness objectively, but also to preserve moral boundaries—"Laennec preferred to use his stethoscope . . . because he was more comfortable at a distance from patients of different sex and class." Duffin thereby contends that the merging of science and the human condition—medical technology—distanced the doctor from the patient. Unfortunately, Duffin lingers in her discussion of Laennec, and fails to recognize that technology embodies more than just instruments. Increasingly sophisticated biology disproved the tenet that the human body was beyond a mechanical understanding. For example, scientific constructs of mental illness and psychosomatic disease cultivated the belief that emotional welfare is equivalent to physical health in the patient's well-being. Patients previously stigmatized as *mad* now were seen as mentally ill; their medical care clearly improved as a result. Technology seeded a culture of empathy in medicine for the emotionally disturbed, and in this sense, narrowed the gap between doctor and patient. Because Duffin's analysis overlooks other facets of technology, extrapolation from the evolution of mediated auscultation to the development of medical technology in general are unsatisfying.

Most weaknesses of this book arise from similar historiographical problems; emphasizing some examples and omitting others, Duffin fails to convey a sense of the relative importance of accomplishments. In doing so, she can mislead her target audience—the average medical student with minimal medical history knowledge. Duffin peppers the introduction with the sentiment that "names and dates are less important than ideas," and sometimes adheres to this philosophy to the detriment of the book. Exploring the dubious role of Nobel laureate Egas Moniz in the development of the prefrontal lobotomy for management of psychosis, she makes no mention of Phinaeus Gage. Gage, a Connecticut laborer who exhibited a dramatic personality change after accidentally driving a railroad spike through his frontal lobe, arguably was a template for Moniz's surgical procedure decades later. Knowledge of this unfortunate accident

is not only integral to a cohesive appreciation of the development of surgical interventions for psychiatric illness, but also is a colorful example that would capture the medical student's attention.

Duffin's occasional inspections of the ideas of other contemporary academics distract the reader from the core themes of the book, and are unnecessary additions to otherwise insightful commentary. She cites Susan Sontag's *Illness as Metaphor* in the chapter titled "Epidemic Diseases in History" as evidence that tuberculosis can be viewed as having profoundly affected "cultural notions of beauty, art, and genius." However, Sontag made clear in the introduction that her "point is that illness is not a metaphor, and the most truthful way of regarding illness—and the healthiest way of being ill—is one most purified of, most resistant to, metaphoric thinking." A breast cancer survivor, Sontag wrote *Illness as Metaphor* as a reaction to her negative experience with the prevailing belief that disease somehow reflects the victim's personality. Sontag would likely disagree with Duffin's argument that advancing medical technology, starting with Laennec's stethoscope, eroded the doctor-patient relationship to the patient's detriment. That technology separated the illness from the patient is in Sontag's view a means to externalize the disease and to achieve a healthy take on illness. Duffin repeatedly proves the ability to support her arguments without enlisting the ideas of other influential authors; by doing so, she leaves herself vulnerable to inconsistency.

Jacalyn Duffin wrote this book for her students. As she claims in her introduction, it is "unapologetically aimed at Canadians." Many Canadian examples follow, some of which are remarkably animated. In a discussion of society's reluctance to accept human dissection, she includes a ghoulish but sardonically amusing photograph of the Queen's University medical class of 1920 posing with the words "MED 20" spelled in cadaver limbs. Canadian medical students are fortunate to have a medical history text written specifically for them, and certainly Canada made many important contributions to medicine—insulin and Osler's textbook to name two. Yet often ethnocentricity confines Duffin to inaccurate history. Only once does she cite a person's background in the usual academic format—for "Magdalena Biernacka (MD, Queen's 1998)"—a former graduate student? Regardless of significance, Duffin painstakingly emphasizes each instance where a Canadian did something "first." Given that she wrote the book for a Canadian audience, it is a forgivable approach. Unfortunately, she sometimes neglects other "firsts" to the point of exasperation. Duffin refers to American Elizabeth Blackwell

as "the first openly female person to graduate from a Western medical school in modern times," while in the following paragraph she claims that the achievements of Augusta Stowe-Gullen, the first woman to graduate from a Canadian medical school, "marked a watershed in higher education for women"—a triumph indistinguishable to Blackwell's that occurred thirty-four years earlier.

Despite her personal biases, Duffin applies medical history to current medical thought masterfully. Perhaps as a function of her diverse background, she seems to recognize instinctively that specialization triaged doctors not only by organ system, but also by sociocultural ideology. Duffin's discussion of the pediatrician's role as child's advocate, preventive caregiver, and humanist is uniquely medical and meshes well with the history of the profession. The chapter "Decline and Rebirth of Family Medicine" is a captivating examination of the general practitioner's fight for survival in an increasingly specialized industry. The strategy by which GPs founded their own board of licensure, reinvented themselves as practitioners of family medicine, and struggled to identify their niche in the seemingly incompatible research-oriented medical colleges, is a deeply engrossing account of this specialty that seeks to be unspecialized. Interesting thoughts also surface in Duffin's scrutiny of the anti-psychiatry movement. Popular culture embraced the movement, and she questions whether its eager acceptance by the public arose from fears of the loss of self-determinism. In the 1970s, psychiatric dysfunctions were the last vestige of diseases without soundly demonstrated biological etiology. A prominent figure in the anti-psychiatry movement, Thomas Szasz argued that mental illness is a myth because it has no proven organic pathology. To this, Duffin responds, "will the advent of technological diagnosis or an effective pharmaceutical invalidate the earlier psychic observations and correlations?" Duffin reminds the medical student that medical science still has far to go; suffering cannot always be reduced to an aberrant protein or inflammatory reaction, and never should be ignored.

Duffin does often question the dogma of medical thought, and her pedagogic intentions are obvious from the start. Various "thought experiments" appear throughout the book, and some prove to be inspiring tools, e.g., "limit yourself to what Galen knew and the methods of investigation available to him. Then try to refute his theory." Of particular value is the final chapter of the work, "How to Research a Question in Medical History." Here, Duffin teaches the medical student the principles of historical research. She warns the amateur historian of presentism, of over-reliance on

secondary sources, and of excess subjectivity. Her educational goals converge here convincingly, in contrast to similar themes explored earlier in the book; another "thought experiment" titled "Heroes and Villains," appearing in the book's introduction, asks students to research various prominent figures in medical history and to identify them as either good or evil; the correct response is "it depends." One would hope that most medical students developed this rudimentary critical thinking ability during their undergraduate years or earlier.

Roy Porter's *The Greatest Benefit to Mankind* more subtly inspires reflection. Early on, we realize that disease is more social force than enemy, and Porter exploits this theme to weave a story. He voices his own opinion rarely; the immense cast of characters and time scale alone motivate the reader to consider how historical events shaped medical thought. Porter's prose is often exhilarating; the text charms the reader, medical student or otherwise, throughout its 832 pages. The recently deceased professor of social history of medicine at London's Wellcome Institute for the History of Medicine excelled at what is perhaps the most valuable skill in historical writing—he is complete without being monotonous. And as the author of dozens of monographs and articles on various aspects of medical history, he certainly knows his stuff.

While the boundaries of her expertise sometimes limit Jacalyn Duffin's ability to explore unfamiliar topics, it appears that Porter's knowledge had no boundaries at all. Though he did not write on every topic in historical medicine prior to *Greatest Benefit,* he reveals in this book the talent to explore new subject matter capably. Porter's writing exudes competence, yet it is accessible to the novice historian. He acknowledges a Western focus to the text, but devotes chapters, albeit brief, to Islamic, Indian, and Chinese medicine. One gets the feeling that his decision to address Indian and Chinese medicine was an afterthought, but the Muslim chapter proves that Arabic physicians made important medical contributions during the European Middle Ages. Porter describes pioneering mental institutions, called *maristans,* which appeared in Muslim lands. Ibn al-Nafis, a Syrian physician of the 13th century, was the first to refute Galen's notion that blood passed from the right to the left ventricle through invisible pores in the interventricular septum. Porter recognizes that after this period the medical innovations outside of the Western world took second fiddle to the dominant medical culture of Europe, and does examine the role of imperialism in the migration. Perhaps a re-

flection of my own ethnocentricity, I viscerally felt that Porter weighs cultures and figures appropriately.

Since Porter did not intend his book to be read specifically by medical students or as an accessory to a medical history course, he had the liberty to arrange it chronologically. This format clearly facilitates the development of evolving historical themes, and Porter describes them seamlessly. He expertly demonstrates that social context is crucial to the development of medical thought without resorting to constructs such as Duffin's "Heroes and Villains." One comes to understand that the pursuit of scientific medicine oscillates between secularization and religiosity. That medicine sometimes does more harm than good is another major thread of the book; Porter often inspects the connection between iatrogenic disease and reactions to medical incompetence. The reader sees a development from the surgeon losing his hands in violation of Hammurabi's Code, to Samuel Hahnemann's homeopathic dilutions in revolt against malignant 18th-century pharmaceuticals, to modern malpractice litigation and alternative medicine. Porter also surveys perceptions of illness, and demonstrates that the acute disease surrendered to the chronic, that subjective symptoms yielded to objective signs, and that one no longer needed to feel sick to be ill.

Porter sometimes falters at the thorny task of associating historical developments with the appropriate scientific phenomena. Antiquated terminology often is used without sufficient explanation—for example, scrofula and phthisis, varied manifestations of tuberculosis that vanished from the medical lexicon with Koch's discovery of the tuberculosis bacillus. Like Duffin, he examines nutritional deficiencies and describes associated therapeutics and social context but fails to include the accompanying etiologies. Thus, the reader must wonder or research separately the deficits that cause pellagra, kwashiorkor, rickets, beriberi, and even scurvy. Sometimes, lack of explanation undermines the crux of Porter's argument entirely. In his portrayal of the evolution of scientific thought in the understanding of deficiency diseases and the discovery of vitamins, he gives the example of Frederick Gowland Hopkins, an English biochemist. In 1906, Hopkins performed experiments determining that animals require factors in addition to what was previously believed to be sufficient to sustain life. "He fed young rats on casein, lard, sugar, and salts (supposedly everything essential to health), and gave some of them milk additionally. Only those receiving the milk thrived. . . . The key to nutrition, therefore, lay in these missing links." To grasp

the significance of Hopkins' experiments, one must appreciate that casein is the chief protein in milk. Even recognizing that casein is a protein is insufficient, because the experimental redundancy of the variables casein and milk (which contains casein also), empowers the experiment. One might even require a scientific background to decipher Porter's error.

The final chapters of *Greatest Benefit* explore the interaction of modern medicine and society, with Porter incorporating various historical and sociological themes into his arguments. Only in these closing remarks does Porter drift from the neutral stance taken throughout the rest of the volume. Recognizing the vast number of therapies discovered in only the past hundred years, he demonstrates that the public's expectations of medicine inflated proportionally to the point that medicine now "medicalizes" risk. Hypertension is taught as disease, though it is not inherently pathological. The range of normal is decreasing, provoking somatoform disorders and hypochondrias. He reprimands the scientific establishment for encouraging vast spending to develop therapies that incrementally extend the lives of patients suffering from preventable diseases (what he calls "Band Aid salvage"), at the expense of funding public health endeavors to sufficiently educate the public about their willful participation in activities that will have a negative impact on their health in the future. "The facts indicate how little medicine weighs in the balance of health . . . smoking related diseases cost the NHS [the British National Health Service] £610 million a year . . . common sense dictates that the money spent on these forms of cardiology and oncology would be more wisely spent on anti-smoking campaigns, and in research into other diseases . . . in terms of its professed aims—the greatest health for the greatest number—the Olympian verdict must be that much medicine has been off target." Straying from his usual role as objective historian, Porter makes his case well.

The Greatest Benefit to Mankind is considerably more comprehensive than *A Scandalously Short Introduction.* To an extent, the books duplicate each other, especially when dealing with key figures in medical history. That the two differ greatly in format and in intended audience does instill a certain "apples and oranges" quality to the decision of which one would best benefit the new medical student. A great many valuable ideas arise from Duffin's unique background, but ultimately her book suffers from more deficiencies than does *Greatest Benefit.* While one must admire Jacalyn Duffin for covering uncharted territory, it is difficult not to give Porter a glowing

endorsement. *Scandalously Short* is a good read, but *Greatest Benefit* is a profoundly stirring and inclusive scrutiny of medical history. If time were not a factor, which unfortunately it is, these texts would complement each other in a history of medicine course; both succeed in unifying Western dominance and secular empiricism, technology and perceptions of illness, science and humanity. Roy Porter and Jacalyn Duffin are both accomplished scholars of medical history. Regardless of their differences, both make valuable contributions to the ongoing discourse on what is proper medical behavior.

Book Reviews

John Galbraith Simmons. *Doctors and Discoveries: Lives That Created Today's Medicine.* Boston, Massachusetts: Houghton Mifflin Company, 2002. Pages xx + 460. $24.00.
ISBN: 0-618-15276-8

Reviewed by Edward J. Huth

Is medical history the stories of men and, within those, what they did and why? Or is it an account of the growth of, and changes in, medical and related biological concepts and practice and, within such an account, who was responsible? This is a false dichotomy, but there may be biases in whoever chooses to read among works with these two structures. Most amateurs of medical history are likely to prefer the first; professional medical historians seem to prefer the second. But in this second kind of approach, the content of biographical detail can differ widely. Fielding Garrison's classic *An Introduction to the History of Medicine* is rich in biographical detail. Arturo Castiglioni's *A History of Medicine* is similar but with less about historically important men and women. In writing his book, Simmons chose the first structure and properly so, I believe, because he has written not for professional historians but for readers in medicine, the amateurs (the lovers of medical history)—and outside of medicine—who enjoy looks backward to see where medicine has come from.

Simmons presents here biographical sketches of 86 men and women who through four millennia shaped what we know as Western medicine; Chinese and Indian medicine are not represented. The sketches average 4 3/4 pages in length. They are accurate sketches, drawn apparently mainly, or entirely, from secondary sources, which appear to be fully represented in his bibliography. Simmons is careful to put within quotation marks succinct characterizations from other writers. These sketches give a clear view of their subjects, including, as the useful phrase goes, "warts and all" as well as virtues.

The biographical sketches appear in six groups. The first group is "Part I. Compass of Modern Medicine": Darwin, Virchow, Bernard, Pasteur, Koch, Hippocrates, and Galen, in that sequence. He seems to have selected these seven as the leading determinants of the character of modern Western medicine. Why he placed them in this order

rather than a chronological sequence better representing the unfolding of present-day concepts is unclear. Surely it was Hippocrates—more accurately the Hippocratic school—as empirical observers and recorders, the founders of rational medicine who, rather than mythological practitioners, drew the first blueprint of modern medicine. And Galen represents the first medical encyclopedist, the pioneer in the gathering of a wider picture of man's structure and diseases afflicting it. Nor is it clear why Simmons chose Darwin over Mendel as the main shaper eventually of today's sharp focus on the genetics of disease and its implications for possible treatment. The next group, 16 men and one woman (Florence Nightingale), are grouped as responsible for "The Principal Transformations." Unlike Part I, this part is closely chronological. Here are persons like Harvey, Laennec, Röntgen, and Avery who, arguably, might have appeared in Part I. Part III, "Figures of Constant Reference," includes 14 men who might as well been categorized as "principal transformers." Part IV, "Creating Modern Medicine," includes 22 men, some of whom might have been properly placed in Part III. Part V, "Recent and Contemporary," covers 16 men and two women who unarguably generated major influences on the medicine of today. Part VI, "Omnium-Gatherum," is a sort of grab-bag including Lydia Pinkham, Samuel Hahnemann, and others who colored the medical culture of the 20th century; but it inexplicably includes Celsus, in his way an encyclopedist akin to Galen, and Avicenna. But how can Lydia Pinkham fit under the umbrella "Doctors and Discoveries"? We might as well expect to find Mary Baker Eddy in this kind of "gatherum."

Some readers of this collection will wonder, as I have, about the basis for selecting some persons and excluding others with as justifiable a basis for inclusion. MacFarlane Burnet is here, but why not also Peter Medawar? Dausset is here but why not his co-Nobelists Snell and Baruj Benacerraf? In view of Simmons's including the encyclopedists Celsus and Galen, I can see why he included Sydenham and Osler. They certainly fit under the umbrella of "Doctors," but there are plenty of clear rivals for "Discoveries" who are not here. Simmons does concede in his introductory pages that others might have chosen a different array of biographees ("Verdicts in the history of medicine . . . are rarely . . . unanimous"), but except for his telling us in his sketch of Darwin why he chose him, he says little explicitly about his criteria for selection.

If this book is considered by public librarians or others serving patrons drawn mainly from outside of medicine and its closely related fields, my reservations about it should be ignored. They should

also be ignored by librarians serving students in any of the health sciences. Readers may spot a few errors: p. 232, Spemann was awarded the Nobel Prize in Physiology or Medicine in 1935, not 1953; p. 342, Robert "Larou" Dickinson is Robert Latou Dickinson. But Simmons's biographies are overall accurate, are not hagiographic, and do clearly place the men and women he has chosen in the continuum of their times, what influenced them and what they influenced. Given the close-to or total invisibility of medical history in today's medical schools, *Doctors and Discoveries* might bring it back to view for at least some of their students.

John O'Donnell. *Coriell—The Coriell Institute for Medical Research and a Half Century of Science.* Canton, MA: Science History Publications/USA, 2002. ISBN 0-88135-268-3, 275p., illustrated.

Reviewed by J.T.H. Connor

Fellows of the College who peruse this volume can learn much about the accomplishments of colleague and former CPP president, Lewis L. Coriell—founder and long-time leader of the medical research institute in Camden, New Jersey, that eventually would bear his name. Insights into the activities of other prominent Fellows such as Jonathan Rhoads, who wrote the Foreword, can also be gleaned from this book. Similarly, those interested in the contributions of Camden and New Jersey to medical research during the past 50 years will find O'Donnell's study helpful. The Coriell Institute for Medical Research, which commissioned this book, should therefore be pleased with it.

O'Donnell's account embraces several interconnected stories. It is a scientific biography of Coriell, an overview of the creation and development of a private research organization, and a study in how science and medicine played a major role in urban regeneration in one particular locale. In the first story, O'Donnell traces the life of Lew Coriell from his birth in Ohio, his teen years on a Montana farm, and his professional education at the University of Kansas, where he took both Ph.D. and M.D. degrees. Because of training in both bacteriology and medicine, Coriell spent his war years at Fort Detrick, Maryland, in the U.S. Army Medical Command's Biological Research Division. Laboratory techniques and knowledge of infectious disease learned during these CBW days would later become advantageous to Coriell in peacetime. A residency at the Children's

Hospital of Philadelphia, where Coriell worked with the likes of C. Everett Koop—who provided him with fresh foreskins for tissue culture studies—led to his appointment as Medical Director and Chief of Staff of the Camden Municipal Hospital in 1949. As the boss of a small, impoverished contagious and infectious diseases hospital in what would become a blighted community, Corriell had his work cut out for him. But from this perhaps unenviable position, Coriell applied his technical talent and seemingly endless energy to carve out his place in history by founding his own research institute and becoming a driving force in the creation of the University of Medicine and Dentistry of New Jersey (UMDNJ).

Foundational for these entwined paths—the two stories that occupy the remainder of O'Donnell's book—was the menace of poliomyelitis. Because of his accumulated experience, knowledge of cell culture technique, and ability to communicate the importance of medical research to local, prominent businessmen and state officials, Coriell was able to fund the South Jersey Medical Research Foundation in 1953. It first set itself the goal of helping to vanquish polio—and indeed it did just that through participation in the development of polio vaccine and subsequent massive clinical trials. Over the next half dozen or so years, Coriell and his medical staff steered the hospital and a new laboratory facility built on its grounds into being major players in the national fight against polio. With poliomyelitis eventually under control, these South Jersey doctors were rightfully able to share in the credit for this achievement.

Success bred success. Soon major federal and state grants, along with sizeable philanthropic donations rolled in to advance the medical research efforts of the Foundation. Several projects were undertaken, but tackling different facets of cancer became a priority for Coriell and his team. Despite the success these researchers enjoyed, as evidenced in public and professional recognition, the future of the Foundation was occasionally in doubt. As O'Donnell shows in his later chapters, the rise of "big science"—as exemplified in massive federal enterprises such as the NIH—threw into relief the vulnerabilities of a small, private, and non-university affiliated research institute. Similarly, as Coriell got older, the problem of succession had to be addressed. The 1970s and 1980s were decades not without accomplishment, but they were most of all a period of reflection and corporate repositioning. With the appointment of David Beck, a respected scientist and professional scientific administrator, in 1991 the now-named Coriell Institute for Medical Research began to regain its stability. Beck would lead the organization into the 21st

century by emphasizing collaboration with other fast-growing South Jersey institutions such as Cooper Hospital and UMDNJ—a trend that Lew Coriell lived long enough to see before he died in 2001 at the age of 90.

Because of the entrepreneurial nature of its topic, this study by O'Donnell is understandably as much a corporate history as it is anything else. The author describes himself as a proponent of "strengthening organizations by enhancing corporate memory," while he eschews "standard 'company' histories" with their "grip and grin" public relations photographs. O'Donnell tries hard to place his subject in broader historical contexts not usually found in company histories, but sometimes it is difficult to avoid totally the constrictions of commissioned history. Even this book includes a "grip and grin" or two. The text could also have been improved if a stronger editorial hand had been brought to bear on its writing. Background studies on medicine and health in New Jersey such as David Cowen's seminal work are curiously not cited here. Nevertheless, this is a work that could be on view on the physician's coffee table just as comfortably as it could be nestled away on the historian's bookshelf.

Notes on Contributors

An Iowa native, **Aaron Barber** emigrated to Chicago in 1986 to attend the Jesuit ministerings at Loyola University, followed by a different sort of indoctrination back in the Homeland at the University of Iowa medical school. Appropriately socialized, Dr. Barber took his medical degree to New York, where he became a real doctor in Bellevue's Emergency Department. Since completion of residency in 1998, he has practiced emergency medicine in Cincinnati, Oakland, San Francisco, and, currently, New Jersey. He and his beautiful wife live in Philadelphia, where he began study in Penn's Bioethics program in 2001.

Dr. J.T.H. Connor is Assistant Director, National Museum of Health and Medicine, Armed Forces Institute of Pathology, Washington, DC. He holds degrees in science, history of science, and medical history. His numerous publications on the development of North American medicine and healthcare in the nineteenth and twentieth centuries have appeared in American, Canadian, and European journals and books. His most recent book, *Doing Good: The Life of Toronto's General Hospital* (University of Toronto Press, 2000) has received several awards. One of his current research projects focuses on an aspect of medical publishing in Philadelphia. He lives in Silver Spring, Maryland.

Edward J. Huth (M.D., 1947, University of Pennsylvania) served from 1971 to 1990 as Editor of *Annals of Internal Medicine.* He was Editor, *The Online Journal of Current Clinical Trials,* an electronic journal of the American Association for the Advancement of Science from 1991 to mid-1994. In 1987 he was elected a Fellow of the Royal College of Physicians of London. His most recent book is *Medicine in Quotations* (2000, American College of Physicians), which called for many hours in the College of Physicians of Philadelphia's library extracting content from its historical treasures.

Lawrence D. Longo is Professor of Obstetrics and Gynecology, Physiology, and Biochemistry, School of Medicine, Loma Linda

University, Loma Linda, California. Although working as a basic scientist, Dr. Longo has published several articles on nineteenth–century obstetrics and gynecology. His latest book, with Philip M. Teigen, is *"Dearest G . . ., Yours W.O.", William Osler's Letters from Egypt to Grace Revere Osler* (2002). Currently, he is completing a volume *Robert Patterson Harris of Philadelphia: The "Statistical Method" and the Evolution of Cesarean Section.*

Barry Schlansky is a sophomore medical student at Jefferson Medical College of Thomas Jefferson University in Philadelphia, Pennsylvania. A lifelong Pennsylvanian, Barry was born at Thomas Jefferson University Hospital and studied biochemistry and molecular biology at Pennsylvania State University. In the summer of 2002, he served as student intern at the Francis C. Wood Institute for the History of Medicine at the College of Physicians of Philadelphia. Newly cognizant of the rich tradition behind his chosen field-of-study, Barry now hopes to assume an active role in integrating medical history into the curriculum at Jefferson.

Dr. Norman G. Schneeberg spent most of his career in his native city, Philadelphia. It included Chiefships of Endocrinology at the Mount Sinai Hospital, Philadelphia General Hospital and Jefferson West Park Hospital. In 1962 he was appointed Professor of Medicine (Endocrinology) at Hahnemann Hospital and became Emeritus Clinical Professor at his retirement. His bibliography includes 53 publications. His textbook, *Essentials of Clinical Endocrinology,* was published in 1970. In 1940 he married Helen Bassen of St. John, N.B., Canada. They have two daughters and three grandsons.

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